SiBE05-722_C

Service Manual

Inverter Pair
Floor / Ceiling Suspended Dual Type
BA-Series



[Applied Models]
● Inverter Pair : Cooling Only
● Inverter Pair : Heat Pump

Inverter Pair Floor / Ceiling Suspended Dual Type BA-Series

●Cooling Only

Indoor Unit

FLKS25BAVMB
FLKS35BAVMB

Outdoor Unit

RKS25E2V1B	**RKS25G2V1B**
RKS35E2V1B	**RKS35G2V1B**
	RKS25G2V1B9
	RKS35G2V1B9

●Heat Pump

Indoor Unit

FLXS25BAVMB
FLXS35BAVMB

Outdoor Unit

RXS25E2V1B	**RXS25G2V1B**	**RXS25J2V1B**
RXS35E2V1B	**RXS35G2V1B**	**RXS35J2V1B**
	RXS25G2V1B9	**RXS25K3V1B**
	RXS35G2V1B9	**RXS35K2V1B**

The removal procedure for each model is separately bound. Refer to page 123 for the booklet number of applicable model.

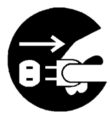
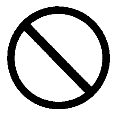
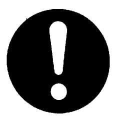
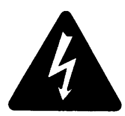
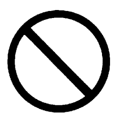
1. Introduction

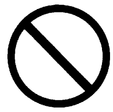
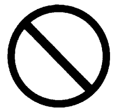
1.1 Safety Cautions

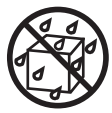
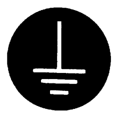
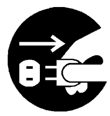
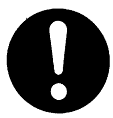
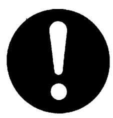
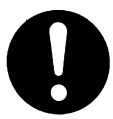
Cautions and Warnings

- Be sure to read the following safety cautions before conducting repair work.
- The caution items are classified into "⚠ **Warning**" and "⚠ **Caution**". The "⚠ **Warning**" items are especially important since they can lead to death or serious injury if they are not followed closely. The "⚠ **Caution**" items can also lead to serious accidents under some conditions if they are not followed. Therefore, be sure to observe all the safety caution items described below.
- About the pictograms
  △ This symbol indicates the item for which caution must be exercised.
  The pictogram shows the item to which attention must be paid.
  ○ This symbol indicates the prohibited action.
  The prohibited item or action is shown in the illustration or near the symbol.
  ● This symbol indicates the action that must be taken, or the instruction.
  The instruction is shown in the illustration or near the symbol.
- After the repair work is complete, be sure to conduct a test operation to ensure that the equipment operates normally, and explain the cautions for operating the product to the customer.

1.1.1 Cautions Regarding Safety of Workers

⚠ **Warning**	
Be sure to disconnect the power cable plug from the plug socket before disassembling the equipment for repair. Working on the equipment that is connected to the power supply may cause an electrical shock. If it is necessary to supply power to the equipment to conduct the repair or inspecting the circuits, do not touch any electrically charged sections of the equipment.	
If the refrigerant gas is discharged during the repair work, do not touch the discharged refrigerant gas. The refrigerant gas may cause frostbite.	
When disconnecting the suction or discharge pipe of the compressor at the welded section, evacuate the refrigerant gas completely at a well-ventilated place first. If there is gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it may cause injury.	
If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas may generate toxic gases when it contacts flames.	
The step-up capacitor supplies high-voltage electricity to the electrical components of the outdoor unit. Be sure to discharge the capacitor completely before conducting repair work. A charged capacitor may cause an electrical shock.	
Do not start or stop the air conditioner operation by plugging or unplugging the power cable plug. Plugging or unplugging the power cable plug to operate the equipment may cause an electrical shock or fire.	

Warning	
Be sure to wear a safety helmet, gloves, and a safety belt when working at a high place (more than 2 m). Insufficient safety measures may cause a fall accident.	
In case of R-410A refrigerant models, be sure to use pipes, flare nuts and tools for the exclusive use of the R-410A refrigerant. The use of materials for R-22 refrigerant models may cause a serious accident such as a damage of refrigerant cycle as well as an equipment failure.	

Caution	
Do not repair the electrical components with wet hands. Working on the equipment with wet hands may cause an electrical shock.	
Do not clean the air conditioner by splashing water. Washing the unit with water may cause an electrical shock.	
Be sure to provide the grounding when repairing the equipment in a humid or wet place, to avoid electrical shocks.	
Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and may cause injury.	
Be sure to conduct repair work with appropriate tools. The use of inappropriate tools may cause injury.	
Be sure to check that the refrigerating cycle section has cooled down enough before conducting repair work. Working on the unit when the refrigerating cycle section is hot may cause burns.	
Use the welder in a well-ventilated place. Using the welder in an enclosed room may cause oxygen deficiency.	

1.1.2 Cautions Regarding Safety of Users

Warning	
Be sure to use parts listed in the service parts list of the applicable model and appropriate tools to conduct repair work. Never attempt to modify the equipment. The use of inappropriate parts or tools may cause an electrical shock, excessive heat generation or fire.	
If the power cable and lead wires have scratches or deteriorated, be sure to replace them. Damaged cable and wires may cause an electrical shock, excessive heat generation or fire.	
Do not use a joined power cable or extension cable, or share the same power outlet with other electrical appliances, since it may cause an electrical shock, excessive heat generation or fire.	
Be sure to use an exclusive power circuit for the equipment, and follow the local technical standards related to the electrical equipment, the internal wiring regulations, and the instruction manual for installation when conducting electrical work. Insufficient power circuit capacity and improper electrical work may cause an electrical shock or fire.	
Be sure to use the specified cable for wiring between the indoor and outdoor units. Make the connections securely and route the cable properly so that there is no force pulling the cable at the connection terminals. Improper connections may cause excessive heat generation or fire.	
When wiring between the indoor and outdoor units, make sure that the terminal cover does not lift off or dismount because of the cable. If the cover is not mounted properly, the terminal connection section may cause an electrical shock, excessive heat generation or fire.	
Do not damage or modify the power cable. Damaged or modified power cable may cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable may damage the cable.	
Do not mix air or gas other than the specified refrigerant (R-410A / R-22) in the refrigerant system. If air enters the refrigerating system, an excessively high pressure results, causing equipment damage and injury.	
If the refrigerant gas leaks, be sure to locate the leaking point and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak. If the leaking point cannot be located and the repair work must be stopped, be sure to perform pump-down and close the service valve, to prevent the refrigerant gas from leaking into the room. The refrigerant gas itself is harmless, but it may generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges.	
When relocating the equipment, make sure that the new installation site has sufficient strength to withstand the weight of the equipment. If the installation site does not have sufficient strength and if the installation work is not conducted securely, the equipment may fall and cause injury.	

Warning	
Check to make sure that the power cable plug is not dirty or loose, then insert the plug into a power outlet securely. If the plug has dust or loose connection, it may cause an electrical shock or fire.	
Be sure to install the product correctly by using the provided standard installation frame. Incorrect use of the installation frame and improper installation may cause the equipment to fall, resulting in injury.	For unitary type only
Be sure to install the product securely in the installation frame mounted on the window frame. If the unit is not securely mounted, it may fall and cause injury.	For unitary type only
When replacing the coin battery in the remote controller, be sure to dispose of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	
Do not install the equipment in a place where there is a possibility of combustible gas leaks. If the combustible gas leaks and remains around the unit, it may cause a fire.	
Check to see if the parts and wires are mounted and connected properly, and if the connections at the soldered or crimped terminals are secure. Improper installation and connections may cause excessive heat generation, fire or an electrical shock.	
If the installation platform or frame has corroded, replace it. Corroded installation platform or frame may cause the unit to fall, resulting in injury.	
Check the grounding, and repair it if the equipment is not properly grounded. Improper grounding may cause an electrical shock.	

Caution	
Be sure to measure the insulation resistance after the repair, and make sure that the resistance is 1 MΩ or higher. Faulty insulation may cause an electrical shock.	
Be sure to check the drainage of the indoor unit after the repair. Faulty drainage may cause the water to enter the room and wet the furniture and floor.	
Do not tilt the unit when removing it. The water inside the unit may spill and wet the furniture and floor.	
Be sure to install the packing and seal on the installation frame properly. If the packing and seal are not installed properly, water may enter the room and wet the furniture and floor.	For unitary type only

1.2 Used Icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

Icon	Type of Information	Description
Note:	Note	A “note” provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
Caution	Caution	A “caution” is used when there is danger that the reader, through incorrect manipulation, may damage equipment, loose data, get an unexpected result or has to restart (part of) a procedure.
Warning	Warning	A “warning” is used when there is danger of personal injury.
	Reference	A “reference” guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

Part 1
List of Functions

1. Functions

Category	Functions	FLKS25/35BAVMB RKS25/35E2V1B	FLXS25/35BAVMB RXS25/35E2V1B
Basic Function	Inverter (with inverter power control)	●	●
	Operation limit for cooling (°CDB)	–10 ~ 46 ★	–10 ~ 46
	Operation limit for heating (°CWB)	—	–15 ~ 18
	PAM control	●	●
	Standby electricity saving	—	—
Compressor	Oval scroll compressor	—	—
	Swing compressor	●	●
	Rotary compressor	—	—
	Reluctance DC motor	●	●
Comfortable Airflow	Power-airflow flap	—	—
	Power-airflow dual flaps	—	—
	Power-airflow diffuser	—	—
	Wide-angle louvers	—	—
	Vertical auto-swing (up and down)	●	●
	Horizontal auto-swing (right and left)	—	—
	3-D airflow	—	—
Comfort Control	Auto fan speed	●	●
	Indoor unit quiet operation	●	●
	NIGHT QUIET mode (automatic)	—	—
	OUTDOOR UNIT QUIET operation (manual)	●	●
	INTELLIGENT EYE operation	—	—
	Quick warming function (preheating operation)	—	●
	Hot-start function	—	●
	Automatic defrosting	—	●
Operation	Automatic operation	—	●
	Program dry operation	●	●
	Fan only	●	●
Lifestyle Convenience	New POWERFUL operation (non-inverter)	—	—
	Inverter POWERFUL operation	●	●
	Priority-room setting	—	—
	COOL / HEAT mode lock	—	—
	HOME LEAVE operation	●	●
	ECONO operation	—	—
	Indoor unit [ON/OFF] button	●	●
	Signal receiving sign	●	●
	R/C with back light	—	—
	Temperature display	—	—

Category	Functions	FLKS25/35BAVMB RKS25/35E2V1B	FLXS25/35BAVMB RXS25/35E2V1B
Health & Clean	Air-purifying filter	●	●
	Photocatalytic deodorizing filter	●	●
	Air-purifying filter with photocatalytic deodorizing function	—	—
	Titanium apatite photocatalytic air-purifying filter	—	—
	Air filter (prefilter)	●	●
	Wipe-clean flat panel	—	—
	Washable grille	—	—
	MOLD PROOF operation	—	—
	Good-sleep cooling operation	—	—
Timer	WEEKLY TIMER operation	—	—
	24-hour ON/OFF TIMER	●	●
	NIGHT SET mode	●	●
Worry Free “Reliability & Durability”	Auto-restart (after power failure)	●	●
	Self-diagnosis (digital, LED) display	●	●
	Wiring error check function	—	—
	Anti-corrosion treatment of outdoor heat exchanger	●	●
Flexibility	Multi-split/split type compatible indoor unit	●	●
	Flexible power supply correspondence	—	—
	Chargeless	10 m	10 m
	Either side drain (right or left)	—	—
	Power selection	—	—
Remote Control	5-room centralized controller (option)	●	●
	Remote control adaptor (normal open pulse contact) (option)	●	●
	Remote control adaptor (normal open contact) (option)	●	●
	DIII-NET compatible (adaptor) (option)	●	●
Remote Controller	Wireless	●	●
	Wired (option)	—	—

Note: ● : Holding Functions
— : No Functions

★ : Lower limit can be extended by cutting jumper. (facility use only)
Refer to page 113 for detail.

Category	Functions	FLKS25/35BAVMB RKS25/35G2V1B	FLXS25/35BAVMB RXS25/35G2V1B	Category	Functions	FLKS25/35BAVMB RKS25/35G2V1B	FLXS25/35BAVMB RXS25/35G2V1B
Basic Function	Inverter (with inverter power control)	●	●	Health & Clean	Air-purifying filter	●	●
	Operation limit for cooling (°CDB)	–10 ~ 46 ★	–10 ~ 46 ★		Photocatalytic deodorizing filter	●	●
	Operation limit for heating (°CWB)	—	–15 ~ 18		Air-purifying filter with photocatalytic deodorizing function	—	—
	PAM control	●	●		Titanium apatite photocatalytic air-purifying filter	—	—
	Standby electricity saving	—	—				
Compressor	Oval scroll compressor	—	—		Air filter (prefilter)	●	●
	Swing compressor	●	●		Wipe-clean flat panel	—	—
	Rotary compressor	—	—		Washable grille	—	—
	Reluctance DC motor	●	●		MOLD PROOF operation	—	—
Comfortable Airflow	Power-airflow flap	—	—		Good-sleep cooling operation	—	—
	Power-airflow dual flaps	—	—	Timer	WEEKLY TIMER operation	—	—
					24-hour ON/OFF TIMER	●	●
	Power-airflow diffuser	—	—		NIGHT SET mode	●	●
	Wide-angle louvers	—	—	Worry Free "Reliability & Durability"	Auto-restart (after power failure)	●	●
	Vertical auto-swing (up and down)	●	●		Self-diagnosis (digital, LED) display	●	●
	Horizontal auto-swing (right and left)	—	—		Wiring error check function	—	—
	3-D airflow	—	—		Anti-corrosion treatment of outdoor heat exchanger	●	●
Comfort Control	Auto fan speed	●	●				
	Indoor unit quiet operation	●	●	Flexibility	Multi-split/split type compatible indoor unit	●	●
	NIGHT QUIET mode (automatic)	—	—				
	OUTDOOR UNIT QUIET operation (manual)	●	●		Flexible power supply correspondence	—	—
	INTELLIGENT EYE operation	—	—		Chargeless	10 m	10 m
	Quick warming function (preheating operation)	—	●		Either side drain (right or left)	—	—
	Hot-start function	—	●		Power selection	—	—
	Automatic defrosting	—	●	Remote Control	5-room centralized controller (option)	●	●
Operation	Automatic operation	—	●		Remote control adaptor (normal open pulse contact) (option)	●	●
	Program dry operation	●	●				
	Fan only	●	●		Remote control adaptor (normal open contact) (option)	●	●
Lifestyle Convenience	New POWERFUL operation (non-inverter)	—	—				
	Inverter POWERFUL operation	●	●		DIII-NET compatible (adaptor) (option)	●	●
	Priority-room setting	—	—	Remote Controller	Wireless	●	●
	COOL / HEAT mode lock	—	—		Wired (option)	—	—
	HOME LEAVE operation	●	●				
	ECONO operation	—	—				
	Indoor unit [ON/OFF] button	●	●				
	Signal receiving sign	●	●				
	R/C with back light	—	—				
	Temperature display	—	—				

Note: ● : Holding Functions
— : No Functions

★ : Lower limit can be extended by cutting jumper. (facility use only)
Refer to page 113 for detail.

Category	Functions	FLKS25/35BAVMB RKS25/35G2V1B9	FLXS25/35BAVMB RXS25/35G2V1B9
Basic Function	Inverter (with inverter power control)	●	●
	Operation limit for cooling (°CDB)	–10 ~ 46 ★	–10 ~ 46 ★
	Operation limit for heating (°CWB)	—	–15 ~ 18
	PAM control	●	●
	Standby electricity saving	—	—
Compressor	Oval scroll compressor	—	—
	Swing compressor	●	●
	Rotary compressor	—	—
	Reluctance DC motor	●	●
Comfortable Airflow	Power-airflow flap	—	—
	Power-airflow dual flaps	—	—
	Power-airflow diffuser	—	—
	Wide-angle louvers	—	—
	Vertical auto-swing (up and down)	●	●
	Horizontal auto-swing (right and left)	—	—
	3-D airflow	—	—
Comfort Control	Auto fan speed	●	●
	Indoor unit quiet operation	●	●
	NIGHT QUIET mode (automatic)	—	—
	OUTDOOR UNIT QUIET operation (manual)	●	●
	INTELLIGENT EYE operation	—	—
	Quick warming function (preheating operation)	—	●
	Hot-start function	—	●
	Automatic defrosting	—	●
Operation	Automatic operation	—	●
	Program dry operation	●	●
	Fan only	●	●
Lifestyle Convenience	New POWERFUL operation (non-inverter)	—	—
	Inverter POWERFUL operation	●	●
	Priority-room setting	—	—
	COOL / HEAT mode lock	—	—
	HOME LEAVE operation	●	●
	ECONO operation	—	—
	Indoor unit [ON/OFF] button	●	●
	Signal receiving sign	●	●
	R/C with back light	—	—
	Temperature display	—	—

Category	Functions	FLKS25/35BAVMB RKS25/35G2V1B9	FLXS25/35BAVMB RXS25/35G2V1B9
Health & Clean	Air-purifying filter	●	●
	Photocatalytic deodorizing filter	●	●
	Air-purifying filter with photocatalytic deodorizing function	—	—
	Titanium apatite photocatalytic air-purifying filter	—	—
	Air filter (prefilter)	●	●
	Wipe-clean flat panel	—	—
	Washable grille	—	—
	MOLD PROOF operation	—	—
	Good-sleep cooling operation	—	—
Timer	WEEKLY TIMER operation	—	—
	24-hour ON/OFF TIMER	●	●
	NIGHT SET mode	●	●
Worry Free "Reliability & Durability"	Auto-restart (after power failure)	●	●
	Self-diagnosis (digital, LED) display	●	●
	Wiring error check function	—	—
	Anti-corrosion treatment of outdoor heat exchanger	●	●
Flexibility	Multi-split/split type compatible indoor unit	●	●
	Flexible power supply correspondence	—	—
	Chargeless	10 m	10 m
	Either side drain (right or left)	—	—
	Power selection	—	—
Remote Control	5-room centralized controller (option)	●	●
	Remote control adaptor (normal open pulse contact) (option)	●	●
	Remote control adaptor (normal open contact) (option)	●	●
	DIII-NET compatible (adaptor) (option)	●	●
Remote Controller	Wireless	●	●
	Wired (option)	—	—

Note: ● : Holding Functions
— : No Functions

★ : Lower limit can be extended by cutting jumper. (facility use only)
Refer to page 113 for detail.

Category	Functions	FLXS25/35BAVMB RXS25/35J2V1B	FLXS25/35BAVMB RXS25K3V1B, RXS35K2V1B
Basic Function	Inverter (with inverter power control)	●	●
	Operation limit for cooling (°CDB)	–10 ~ 46 ★	–10 ~ 46 ★
	Operation limit for heating (°CWB)	–15 ~ 18	–15 ~ 18
	PAM control	●	●
	Standby electricity saving	—	—
Compressor	Oval scroll compressor	—	—
	Swing compressor	●	●
	Rotary compressor	—	—
	Reluctance DC motor	●	●
Comfortable Airflow	Power-airflow flap	—	—
	Power-airflow dual flaps	—	—
	Power-airflow diffuser	—	—
	Wide-angle louvers	—	—
	Vertical auto-swing (up and down)	●	●
	Horizontal auto-swing (right and left)	—	—
	3-D airflow	—	—
Comfort Control	Auto fan speed	●	●
	Indoor unit quiet operation	●	●
	NIGHT QUIET mode (automatic)	—	—
	OUTDOOR UNIT QUIET operation (manual)	●	●
	INTELLIGENT EYE operation	—	—
	Quick warming function (preheating operation)	●	●
	Hot-start function	●	●
	Automatic defrosting	●	●
Operation	Automatic operation	●	●
	Program dry operation	●	●
	Fan only	●	●
Lifestyle Convenience	New POWERFUL operation (non-inverter)	—	—
	Inverter POWERFUL operation	●	●
	Priority-room setting	—	—
	COOL / HEAT mode lock	—	—
	HOME LEAVE operation	●	●
	ECONO operation	—	—
	Indoor unit [ON/OFF] button	●	●
	Signal receiving sign	●	●
	R/C with back light	—	—
	Temperature display	—	—

Category	Functions	FLXS25/35BAVMB RXS25/35J2V1B	FLXS25/35BAVMB RXS25K3V1B, RXS35K2V1B
Health & Clean	Air-purifying filter	●	●
	Photocatalytic deodorizing filter	●	●
	Air-purifying filter with photocatalytic deodorizing function	—	—
	Titanium apatite photocatalytic air-purifying filter	—	—
	Air filter (prefilter)	●	●
	Wipe-clean flat panel	—	—
	Washable grille	—	—
	MOLD PROOF operation	—	—
	Good-sleep cooling operation	—	—
Timer	WEEKLY TIMER operation	—	—
	24-hour ON/OFF TIMER	●	●
	NIGHT SET mode	●	●
Worry Free "Reliability & Durability"	Auto-restart (after power failure)	●	●
	Self-diagnosis (digital, LED) display	●	●
	Wiring error check function	—	—
	Anti-corrosion treatment of outdoor heat exchanger	●	●
Flexibility	Multi-split/split type compatible indoor unit	●	●
	Flexible power supply correspondence	—	—
	Chargeless	10 m	10 m
	Either side drain (right or left)	—	—
	Power selection	—	—
Remote Control	5-room centralized controller (option)	●	●
	Remote control adaptor (normal open pulse contact) (option)	●	●
	Remote control adaptor (normal open contact) (option)	●	●
	DIII-NET compatible (adaptor) (option)	●	●
Remote Controller	Wireless	●	●
	Wired (option)	—	—

Note: ● : Holding Functions
— : No Functions

★ : Lower limit can be extended by cutting jumper. (facility use only)
Refer to page 113 for detail.

Part 2
Specifications

1. Specifications

1.1 Cooling Only

50 Hz, 220 - 230 - 240 V

Model			FLKS25BAVMB / RKS25E2V1B	FLKS35BAVMB / RKS35E2V1B
Model	**Indoor Unit**		**FLKS25BAVMB**	**FLKS35BAVMB**
	Outdoor Unit		**RKS25E2V1B**	**RKS35E2V1B**
Capacity Rated (Min. ~ Max.)		kW	2.5 (1.2 ~ 3.0)	3.5 (1.2 ~ 3.8)
		Btu/h	8,500 (4,100 ~ 10,200)	11,900 (4,100 ~ 13,000)
		kcal/h	2,150 (1,030 ~ 2,580)	3,010 (1,030 ~ 3,270)
Moisture Removal		L/h	1.2	1.9
Running Current (Rated)		A	3.7 - 3.6 - 3.4	5.3 - 5.1 - 4.9
Power Consumption Rated (Min. ~ Max.)		W	650 (300 ~ 860)	1,130 (300 ~ 1,260)
Power Factor		%	79.9 - 78.5 - 79.7	96.9 - 96.3 - 96.1
COP Rated (Min. ~ Max.)		W/W	3.85 (4.00 ~ 3.49)	3.10 (4.00 ~ 3.02)
Piping Connections	Liquid	mm	φ 6.4	φ 6.4
	Gas	mm	φ 9.5	φ 9.5
	Drain	mm	φ 18.0	φ 18.0
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Max. Interunit Piping Length		m	20	20
Max. Interunit Height Difference		m	15	15
Chargeless		m	10	10
Amount of Additional Charge of Refrigerant		g/m	20	20
Indoor Unit			**FLKS25BAVMB**	**FLKS35BAVMB**
Front Panel Color			Almond White	Almond White
Airflow Rate	H	m³/min (cfm)	7.6 (268)	8.6 (304)
	M		6.8 (240)	7.6 (268)
	L		6.0 (212)	6.6 (233)
	SL		5.2 (184)	5.6 (198)
Fan	Type		Sirocco Fan	Sirocco Fan
	Motor Output	W	34	34
	Speed	Steps	5 Steps, Quiet, Auto	5 Steps, Quiet, Auto
Air Direction Control			Right, Left, Horizontal, Downward	Right, Left, Horizontal, Downward
Air Filter			Removable / Washable / Mildew Proof	Removable / Washable / Mildew Proof
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	78 - 78 - 78
Power Factor		%	96.4 - 95.1 - 94.1	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)		mm	490 × 1,050 × 200	490 × 1,050 × 200
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566	280 × 1,100 × 566
Weight (Mass)		kg	16	16
Gross Weight (Gross Mass)		kg	22	22
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	38 / 35 / 32 / 29
Sound Power Level		dB	53	54
Outdoor Unit			**RKS25E2V1B**	**RKS35E2V1B**
Casing Color			Ivory White	Ivory White
Compressor	Type		Hermetically Sealed Swing Type	Hermetically Sealed Swing Type
	Model		1YC23NXD	1YC23NXD
	Motor Output	W	600	600
Refrigerant Oil	Type		FVC50K	FVC50K
	Charge	L	0.375	0.375
Refrigerant	Type		R-410A	R-410A
	Charge	kg	1.0	1.0
Airflow Rate	H	m³/min (cfm)	33.5 (1,183)	33.5 (1,183)
	L		23.4 (826)	23.4 (826)
Fan	Type		Propeller	Propeller
	Motor Output	W	23	23
Running Current (Rated)		A	3.37 - 3.28 - 3.09	4.92 - 4.74 - 4.55
Power Consumption (Rated)		W	580 - 580 - 580	1,052 - 1,052 - 1,052
Power Factor		%	78.2 - 76.9 - 78.2	97.2 - 96.5 - 96.3
Starting Current		A	3.7	5.3
Dimensions (H × W × D)		mm	550 × 765 × 285	550 × 765 × 285
Packaged Dimensions (H × W × D)		mm	617 × 882 × 363	617 × 882 × 363
Weight (Mass)		kg	32	32
Gross Weight (Gross Mass)		kg	38	38
Sound Pressure Level	H / L	dB(A)	46 / 43	47 / 44
Sound Power Level	H	dB	61	62
Drawing No.			3D055004A	3D055005A

Note: ■ The data are based on the conditions shown in the table below.

Cooling	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	7.5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

50 Hz, 220 - 230 - 240 V

Model	Indoor Unit			FLKS25BAVMB	FLKS35BAVMB
	Outdoor Unit			RKS25G2V1B	RKS35G2V1B
Capacity Rated (Min. ~ Max.)			kW	2.5 (1.2 ~ 3.0)	3.5 (1.2 ~ 3.8)
			Btu/h	8,500 (4,100 ~ 10,200)	11,900 (4,100 ~ 13,000)
			kcal/h	2,150 (1,030 ~ 2,580)	3,010 (1,030 ~ 3,270)
Moisture Removal			L/h	1.2	1.9
Running Current (Rated)			A	3.7 - 3.6 - 3.4	5.3 - 5.1 - 4.9
Power Consumption Rated (Min. ~ Max.)			W	650 (300 ~ 860)	1,130 (300 ~ 1,260)
Power Factor			%	79.9 - 78.5 - 79.7	96.9 - 96.3 - 96.1
COP Rated (Min. ~ Max.)			W/W	3.85 (4.00 ~ 3.49)	3.10 (4.00 ~ 3.02)
Piping Connections	Liquid		mm	ϕ 6.4	ϕ 6.4
	Gas		mm	ϕ 9.5	ϕ 9.5
	Drain		mm	ϕ 18.0	ϕ 18.0
Heat Insulation				Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Max. Interunit Piping Length			m	20	20
Max. Interunit Height Difference			m	15	15
Chargeless			m	10	10
Amount of Additional Charge of Refrigerant			g/m	20	20
Indoor Unit				**FLKS25BAVMB**	**FLKS35BAVMB**
Front Panel Color				Almond White	Almond White
Airflow Rate	H		m³/min (cfm)	7.6 (268)	8.6 (304)
	M			6.8 (240)	7.6 (268)
	L			6.0 (212)	6.6 (233)
	SL			5.2 (184)	5.6 (198)
Fan	Type			Sirocco Fan	Sirocco Fan
	Motor Output		W	34	34
	Speed		Steps	5 Steps, Quiet, Auto	5 Steps, Quiet, Auto
Air Direction Control				Right, Left, Horizontal, Downward	Right, Left, Horizontal, Downward
Air Filter				Removable / Washable / Mildew Proof	Removable / Washable / Mildew Proof
Running Current (Rated)			A	0.33 - 0.32 - 0.31	0.38 - 0.36 - 0.35
Power Consumption (Rated)			W	70 - 70 - 70	78 - 78 - 78
Power Factor			%	96.4 - 95.1 - 94.1	93.3 - 94.2 - 92.9
Temperature Control				Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)			mm	490 × 1,050 × 200	490 × 1,050 × 200
Packaged Dimensions (H × W × D)			mm	280 × 1,100 × 566	280 × 1,100 × 566
Weight (Mass)			kg	16	16
Gross Weight (Gross Mass)			kg	22	22
Sound Pressure Level	H / M / L / SL		dB(A)	37 / 34 / 31 / 28	38 / 35 / 32 / 29
Sound Power Level			dB	53	54
Outdoor Unit				**RKS25G2V1B**	**RKS35G2V1B**
Casing Color				Ivory White	Ivory White
Compressor	Type			Hermetically Sealed Swing Type	Hermetically Sealed Swing Type
	Model			1YC23AFXD	1YC23AFXD
	Motor Output		W	600	600
Refrigerant Oil	Type			FVC50K	FVC50K
	Charge		L	0.375	0.375
Refrigerant	Type			R-410A	R-410A
	Charge		kg	1.0	1.2
Airflow Rate	H		m³/min (cfm)	33.5 (1,183)	36.0 (1,272)
	SL			31.4 (1,109)	31.4 (1,109)
Fan	Type			Propeller	Propeller
	Motor Output		W	50	50
Running Current (Rated)			A	3.37 - 3.28 - 3.09	4.92 - 4.74 - 4.55
Power Consumption (Rated)			W	580 - 580 - 580	1,052 - 1,052 - 1,052
Power Factor			%	78.2 - 76.9 - 78.2	97.2 - 96.5 - 96.3
Starting Current			A	3.2	4.4
Dimensions (H × W × D)			mm	550 × 765 × 285	550 × 765 × 285
Packaged Dimensions (H × W × D)			mm	612 × 906 × 364	612 × 906 × 364
Weight (Mass)			kg	34	34
Gross Weight (Gross Mass)			kg	40	40
Sound Pressure Level	H / SL		dB(A)	46 / 43	48 / 44
Sound Power Level	H		dB	61	63
Drawing No.				3D059861	3D059862

Note: ■ The data are based on the conditions shown in the table below.

Cooling	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

50 Hz, 220 - 230 - 240 V

			FLKS25BAVMB	FLKS35BAVMB
Model	Indoor Unit		FLKS25BAVMB	FLKS35BAVMB
	Outdoor Unit		RKS25G2V1B9	RKS35G2V1B9
Capacity Rated (Min. ~ Max.)		kW	2.5 (1.2 ~ 3.0)	3.5 (1.2 ~ 3.8)
		Btu/h	8,500 (4,100 ~ 10,200)	11,900 (4,100 ~ 13,000)
		kcal/h	2,150 (1,030 ~ 2,580)	3,010 (1,030 ~ 3,270)
Moisture Removal		L/h	1.2	1.9
Running Current (Rated)		A	3.7 - 3.6 - 3.4	5.3 - 5.1 - 4.9
Power Consumption Rated (Min. ~ Max.)		W	650 (300 ~ 860)	1,130 (300 ~ 1,260)
Power Factor		%	79.9 - 78.5 - 79.7	96.9 - 96.3 - 96.1
COP Rated (Min. ~ Max.)		W/W	3.85 (4.00 ~ 3.49)	3.10 (4.00 ~ 3.02)
Piping Connections	Liquid	mm	ϕ 6.4	ϕ 6.4
	Gas	mm	ϕ 9.5	ϕ 9.5
	Drain	mm	ϕ 18.0	ϕ 18.0
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Max. Interunit Piping Length		m	20	20
Max. Interunit Height Difference		m	15	15
Chargeless		m	10	10
Amount of Additional Charge of Refrigerant		g/m	20	20
Indoor Unit			**FLKS25BAVMB**	**FLKS35BAVMB**
Front Panel Color			Almond White	Almond White
Airflow Rate	H	m³/min (cfm)	7.6 (268)	8.6 (304)
	M		6.8 (240)	7.6 (268)
	L		6.0 (212)	6.6 (233)
	SL		5.2 (184)	5.6 (198)
Fan	Type		Sirocco Fan	Sirocco Fan
	Motor Output	W	34	34
	Speed	Steps	5 Steps, Quiet, Auto	5 Steps, Quiet, Auto
Air Direction Control			Right, Left, Horizontal, Downward	Right, Left, Horizontal, Downward
Air Filter			Removable / Washable / Mildew Proof	Removable / Washable / Mildew Proof
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	78 - 78 - 78
Power Factor		%	96.4 - 95.1 - 94.1	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)		mm	490 × 1,050 × 200	490 × 1,050 × 200
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566	280 × 1,100 × 566
Weight (Mass)		kg	16	16
Gross Weight (Gross Mass)		kg	22	22
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	38 / 35 / 32 / 29
Sound Power Level		dB	53	54
Outdoor Unit			**RKS25G2V1B9**	**RKS35G2V1B9**
Casing Color			Ivory White	Ivory White
Compressor	Type		Hermetically Sealed Swing Type	Hermetically Sealed Swing Type
	Model		1YC23AEXD	1YC23AEXD
	Motor Output	W	600	600
Refrigerant Oil	Type		FVC50K	FVC50K
	Charge	L	0.375	0.375
Refrigerant	Type		R-410A	R-410A
	Charge	kg	1.0	1.2
Airflow Rate	H	m³/min (cfm)	33.5 (1,183)	36.0 (1,271)
	SL		30.1 (1,063)	30.1 (1,063)
Fan	Type		Propeller	Propeller
	Motor Output	W	23	23
Running Current (Rated)		A	3.37 - 3.28 - 3.09	4.92 - 4.74 - 4.55
Power Consumption (Rated)		W	580 - 580 - 580	1,052 - 1,052 - 1,052
Power Factor		%	78.2 - 76.9 - 78.2	97.2 - 96.5 - 96.3
Starting Current		A	3.7	5.3
Dimensions (H × W × D)		mm	550 × 765 × 285	550 × 765 × 285
Packaged Dimensions (H × W × D)		mm	612 × 906 × 364	612 × 906 × 364
Weight (Mass)		kg	34	34
Gross Weight (Gross Mass)		kg	38	38
Sound Pressure Level	H / SL	dB(A)	46 / 43	48 / 44
Sound Power Level	H	dB	61	63
Drawing No.			3D065726A	3D065725A

Note: ■ The data are based on the conditions shown in the table below.

Cooling	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

1.2 Heat Pump

50 Hz, 220 - 230 - 240 V

Model						
Model	Indoor Unit		FLXS25BAVMB		FLXS35BAVMB	
	Outdoor Unit		RXS25E2V1B		RXS35E2V1B	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min. ~ Max.)		kW	2.5 (1.2 ~ 3.0)	3.4 (1.2 ~ 4.5)	3.5 (1.2 ~ 3.8)	4.0 (1.2 ~ 5.0)
		Btu/h	8,500 (4,100 ~ 10,200)	11,600 (4,100 ~ 15,400)	11,900 (4,100 ~ 13,000)	13,600 (4,100 ~ 17,100)
		kcal/h	2,150 (1,030 ~ 2,580)	2,920 (1,030 ~ 3,870)	3,010 (1,030 ~ 3,270)	3,440 (1,030 ~ 4,300)
Moisture Removal		L/h	1.2	—	1.9	—
Running Current (Rated)		A	3.7 - 3.6 - 3.4	4.7 - 4.5 - 4.3	5.3 - 5.1 - 4.9	5.8 - 5.5 - 5.3
Power Consumption Rated (Min. ~ Max.)		W	650 (300 ~ 860)	980 (290 ~ 1,490)	1,130 (300 ~ 1,260)	1,230 (290 ~ 1,850)
Power Factor		%	79.9 - 78.5 - 79.7	94.8 - 94.7 - 95.0	96.9 - 96.3 - 96.1	96.4 - 97.2 - 96.7
COP Rated (Min. ~ Max.)		W/W	3.85 (4.00 ~ 3.49)	3.47 (4.14 ~ 3.02)	3.10 (4.00 ~ 3.02)	3.25 (4.14 ~ 2.70)
Piping Connections	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		m	20		20	
Max. Interunit Height Difference		m	15		15	
Chargeless		m	10		10	
Amount of Additional Charge of Refrigerant		g/m	20		20	
Indoor Unit			**FLXS25BAVMB**		**FLXS35BAVMB**	
Front Panel Color			Almond White		Almond White	
Airflow Rate	H	m³/min (cfm)	7.6 (268)	9.2 (325)	8.6 (304)	9.8 (346)
	M		6.8 (240)	8.3 (293)	7.6 (268)	8.9 (314)
	L		6.0 (212)	7.4 (261)	6.6 (233)	8.0 (282)
	SL		5.2 (184)	6.6 (233)	5.6 (198)	7.2 (254)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.36 - 0.34 - 0.33	0.38 - 0.36 - 0.35	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	74 - 74 - 74	78 - 78 - 78	78 - 78 - 78
Power Factor		%	96.4 - 95.1 - 94.1	93.4 - 94.6 - 93.4	93.3 - 94.2 - 92.9	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566		280 × 1,100 × 566	
Weight (Mass)		kg	16		16	
Gross Weight (Gross Mass)		kg	22		22	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power Level		dB	53	53	54	55
Outdoor Unit			**RXS25E2V1B**		**RXS35E2V1B**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23NXD		1YC23NXD	
	Motor Output	W	600		600	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.375		0.375	
Refrigerant	Model		R-410A		R-410A	
	Charge	kg	1.0		1.0	
Airflow Rate	H	m³/min (cfm)	33.5 (1,183)	30.2 (1,066)	33.5 (1,183)	30.2 (1,066)
	L		23.4 (826)	28.3 (999)	23.4 (826)	28.3 (999)
Fan	Type		Propeller		Propeller	
	Motor Output	W	23		23	
Running Current (Rated)		A	3.37 - 3.28 - 3.09	4.34 - 4.16 - 3.97	4.92 - 4.74 - 4.55	5.42 - 5.14 - 4.95
Power Consumption (Rated)		W	580 - 580 - 580	906 - 906 - 906	1,052 - 1,052 - 1,052	1,152 - 1,152 - 1,152
Power Factor		%	78.2 - 76.9 - 78.2	94.9 - 94.7 - 95.1	97.2 - 96.5 - 96.3	96.6 - 97.4 - 97.0
Starting Current		A	4.7		5.8	
Dimensions (H × W × D)		mm	550 × 765 × 285		550 × 765 × 285	
Packaged Dimensions (H × W × D)		mm	617 × 882 × 363		617 × 882 × 363	
Weight (Mass)		kg	32		32	
Gross Weight (Gross Mass)		kg	38		38	
Sound Pressure Level	H / L	dB(A)	46 / 43	47 / 44	47 / 44	48 / 45
Sound Power Level	H	dB	61	62	62	63
Drawing No.			3D055002A		3D055003A	

Note:

■ The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	7.5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

50 Hz, 220 - 230 - 240 V

Model						
Model	Indoor Unit		FLXS25BAVMB		FLXS35BAVMB	
	Outdoor Unit		RXS25G2V1B		RXS35G2V1B	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min. ~ Max.)		kW	2.5 (1.2 ~ 3.0)	3.4 (1.2 ~ 4.5)	3.5 (1.2 ~ 3.8)	4.0 (1.2 ~ 5.0)
		Btu/h	8,500 (4,100 ~ 10,200)	11,600 (4,100 ~ 15,400)	11,900 (4,100 ~ 13,000)	13,600 (4,100 ~17,100)
		kcal/h	2,150 (1,030 ~ 2,580)	2,920 (1,030 ~ 3,870)	3,010 (1,030 ~ 3,270)	3,440 (1,030 ~ 4,300)
Moisture Removal		L/h	1.2	—	1.9	—
Running Current (Rated)		A	3.7 - 3.6 - 3.4	4.7 - 4.5 - 4.3	5.3 - 5.1 - 4.9	5.8 - 5.5 - 5.3
Power Consumption Rated (Min. ~ Max.)		W	650 (300 ~ 860)	980 (290 ~ 1,490)	1,130 (300 ~ 1,260)	1,230 (290 ~ 1,850)
Power Factor		%	79.9 - 78.5 - 79.7	94.8 - 94.7 - 95.0	96.9 - 96.3 - 96.1	96.4 - 97.2 - 96.7
COP Rated (Min. ~ Max.)		W/W	3.85 (4.00 ~ 3.49)	3.47 (4.14 ~ 3.02)	3.10 (4.00 ~ 3.02)	3.25 (4.14 ~ 2.70)
Piping Connections	Liquid	mm	φ 6.4		φ 6.4	
	Gas	mm	φ 9.5		φ 9.5	
	Drain	mm	φ 18.0		φ 18.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		m	20		20	
Max. Interunit Height Difference		m	15		15	
Chargeless		m	10		10	
Amount of Additional Charge of Refrigerant		g/m	20		20	
Indoor Unit			**FLXS25BAVMB**		**FLXS35BAVMB**	
Front Panel Color			Almond White		Almond White	
Airflow Rate	H	m³/min (cfm)	7.6 (268)	9.2 (325)	8.6 (304)	9.8 (346)
	M		6.8 (240)	8.3 (293)	7.6 (268)	8.9 (314)
	L		6.0 (212)	7.4 (261)	6.6 (233)	8.0 (282)
	SL		5.2 (184)	6.6 (233)	5.6 (198)	7.2 (254)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.36 - 0.34 - 0.33	0.38 - 0.36 - 0.35	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	74 - 74 - 74	78 - 78 - 78	78 - 78 - 78
Power Factor		%	96.4 - 95.1 - 94.1	93.4 - 94.6 - 93.4	93.3 - 94.2 - 92.9	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566		280 × 1,100 × 566	
Weight (Mass)		kg	16		16	
Gross Weight (Gross Mass)		kg	22		22	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power Level		dB	53	53	54	55
Outdoor Unit			**RXS25G2V1B**		**RXS35G2V1B**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23AFXD		1YC23AFXD	
	Motor Output	W	600		600	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.375		0.375	
Refrigerant	Model		R-410A		R-410A	
	Charge	kg	1.0		1.2	
Airflow Rate	H	m³/min (cfm)	33.5 (1,183)	30.2 (1,066)	36.0 (1,272)	30.2 (1,066)
	SL		31.4 (1,109)	22.6 (798)	31.4 (1,109)	22.6 (798)
Fan	Type		Propeller		Propeller	
	Motor Output	W	50		50	
Running Current (Rated)		A	3.37 - 3.28 - 3.09	4.34 - 4.16 - 3.97	4.92 - 4.74 - 4.55	5.42 - 5.14 - 4.95
Power Consumption (Rated)		W	580 - 580 - 580	906 - 906 - 906	1,052 - 1,052 - 1,052	1,152 - 1,152 - 1,152
Power Factor		%	78.2 - 76.9 - 78.2	94.9 - 94.7 - 95.1	97.2 - 96.5 - 96.3	96.6 - 97.4 - 97.0
Starting Current		A	4.3		4.8	
Dimensions (H × W × D)		mm	550 × 765 × 285		550 × 765 × 285	
Packaged Dimensions (H × W × D)		mm	612 × 906 × 364		612 × 906 × 364	
Weight (Mass)		kg	34		34	
Gross Weight (Gross Mass)		kg	40		40	
Sound Pressure Level	H / SL	dB(A)	46 / 43	47 / 44	48 / 44	48 / 45
Sound Power Level	H	dB	61	62	63	63
Drawing No.			3D059828		3D059829	

Note: ■ The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

50 Hz, 220 - 230 - 240 V

Model						
Model	Indoor Unit		FLXS25BAVMB		FLXS35BAVMB	
	Outdoor Unit		RXS25G2V1B9		RXS35G2V1B9	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min. ~ Max.)		kW	2.5 (1.2 ~ 3.0)	3.4 (1.2 ~ 4.5)	3.5 (1.2 ~ 3.8)	4.0 (1.4 ~ 5.0)
		Btu/h	8,500 (4,100 ~ 10,200)	11,600 (4,100 ~ 15,400)	11,900 (4,100 ~ 13,000)	13,600 (4,100 ~ 17,100)
		kcal/h	2,150 (1,030 ~ 2,580)	2,920 (1,030 ~ 3,870)	3,010 (1,030 ~ 3,270)	3,440 (1,030 ~ 4,300)
Moisture Removal		L/h	1.2	—	1.9	—
Running Current (Rated)		A	3.7 - 3.6 - 3.4	4.7 - 4.5 - 4.3	5.3 - 5.1 - 4.9	5.8 - 5.5 - 5.3
Power Consumption Rated (Min. ~ Max.)		W	650 (300 ~ 860)	980 (290 ~ 1,490)	1,130 (300 ~ 1,260)	1,230 (290 ~ 1,850)
Power Factor		%	79.9 - 78.5 - 79.7	94.8 - 94.7 - 95.0	96.9 - 96.3 - 96.1	96.4 - 97.2 - 96.7
COP Rated (Min. ~ Max.)		W/W	3.85 (4.00 ~ 3.49)	3.47 (4.14 ~ 3.02)	3.10 (4.00 ~ 3.02)	3.25 (4.14 ~ 2.70)
Piping Connections	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		m	20		20	
Max. Interunit Height Difference		m	15		15	
Chargeless		m	10		10	
Amount of Additional Charge of Refrigerant		g/m	20		20	
Indoor Unit			**FLXS25BAVMB**		**FLXS35BAVMB**	
Front Panel Color			Almond White		Almond White	
Airflow Rate	H	m³/min (cfm)	7.6 (268)	9.2 (325)	8.6 (304)	9.8 (346)
	M		6.8 (240)	8.3 (293)	7.6 (268)	8.9 (314)
	L		6.0 (212)	7.4 (261)	6.6 (233)	8.0 (282)
	SL		5.2 (184)	6.6 (233)	5.6 (198)	7.2 (254)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.36 - 0.34 - 0.33	0.38 - 0.36 - 0.35	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	74 - 74 - 74	78 - 78 - 78	78 - 78 - 78
Power Factor		%	96.4 - 95.1 - 94.1	93.4 - 94.6 - 93.4	93.3 - 94.2 - 92.9	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566		280 × 1,100 × 566	
Weight (Mass)		kg	16		16	
Gross Weight (Gross Mass)		kg	22		22	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power Level		dB	53	53	54	55
Outdoor Unit			**RXS25G2V1B9**		**RXS35G2V1B9**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23AEXD		1YC23AEXD	
	Motor Output	W	600		600	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.375		0.375	
Refrigerant	Model		R-410A		R-410A	
	Charge	kg	1.0		1.2	
Airflow Rate	H	m³/min (cfm)	33.5 (1,183)	28.3 (999)	36.0 (1,271)	28.3 (999)
	SL		30.1 (1,063)	25.6 (904)	30.1 (1,063)	25.6 (904)
Fan	Type		Propeller		Propeller	
	Motor Output	W	23		23	
Running Current (Rated)		A	3.37 - 3.28 - 3.09	4.34 - 4.16 - 3.97	4.92 - 4.74 - 4.55	5.42 - 5.14 - 4.95
Power Consumption (Rated)		W	580 - 580 - 580	906 - 906 - 906	1,052 - 1,052 - 1,052	1,152 - 1,152 - 1,152
Power Factor		%	78.2 - 76.9 - 78.2	94.9 - 94.7 - 95.1	97.2 - 96.5 - 96.3	96.6 - 97.4 - 97.0
Starting Current		A	4.7		5.8	
Dimensions (H × W × D)		mm	550 × 765 × 285		550 × 765 × 285	
Packaged Dimensions (H × W × D)		mm	612 × 906 × 364		612 × 906 × 364	
Weight (Mass)		kg	34		34	
Gross Weight (Gross Mass)		kg	38		38	
Sound Pressure Level	H / SL	dB(A)	46 / 43	47 / 44	48 / 44	48 / 45
Sound Power Level	H	dB	61	62	63	63
Drawing No.			3D065720A		3D065721A	

Note: ■ The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

50 Hz, 220 - 230 - 240 V

Model						
Model	Indoor Unit		FLXS25BAVMB		FLXS35BAVMB	
	Outdoor Unit		RXS25J2V1B		RXS35J2V1B	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min. ~ Max.)		kW	2.5 (1.2 ~ 3.0)	3.4 (1.2 ~ 4.5)	3.5 (1.2 ~ 3.8)	4.0 (1.4 ~ 5.0)
		Btu/h	8,500 (4,100 ~ 10,200)	11,600 (4,100 ~ 15,400)	11,900 (4,100 ~ 13,000)	13,600 (4,100 ~ 17,100)
		kcal/h	2,150 (1,030 ~ 2,580)	2,920 (1,030 ~ 3,870)	3,010 (1,030 ~ 3,270)	3,440 (1,030 ~ 4,300)
Moisture Removal		L/h	1.2	—	1.9	—
Running Current (Rated)		A	3.7 - 3.6 - 3.4	4.7 - 4.5 - 4.3	5.3 - 5.1 - 4.9	5.8 - 5.5 - 5.3
Power Consumption Rated (Min. ~ Max.)		W	650 (300 ~ 860)	980 (290 ~ 1,490)	1,130 (300 ~ 1,260)	1,230 (290 ~ 1,850)
Power Factor		%	79.9 - 78.5 - 79.7	94.8 - 94.7 - 95.0	96.9 - 96.3 - 96.1	96.4 - 97.2 - 96.7
COP Rated (Min. ~ Max.)		W/W	3.85 (4.00 ~ 3.49)	3.47 (4.14 ~ 3.02)	3.10 (4.00 ~ 3.02)	3.25 (4.14 ~ 2.70)
Piping Connections	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		m	20		20	
Max. Interunit Height Difference		m	15		15	
Chargeless		m	10		10	
Amount of Additional Charge of Refrigerant		g/m	20		20	
Indoor Unit			**FLXS25BAVMB**		**FLXS35BAVMB**	
Front Panel Color			Almond White		Almond White	
Airflow Rate	H	m³/min (cfm)	7.6 (268)	9.2 (325)	8.6 (304)	9.8 (346)
	M		6.8 (240)	8.3 (293)	7.6 (268)	8.9 (314)
	L		6.0 (212)	7.4 (261)	6.6 (233)	8.0 (282)
	SL		5.2 (184)	6.6 (233)	5.6 (198)	7.2 (254)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.36 - 0.34 - 0.33	0.38 - 0.36 - 0.35	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	74 - 74 - 74	78 - 78 - 78	78 - 78 - 78
Power Factor		%	96.4 - 95.1 - 94.1	93.4 - 94.6 - 93.4	93.3 - 94.2 - 92.9	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566		280 × 1,100 × 566	
Weight (Mass)		kg	16		16	
Gross Weight (Gross Mass)		kg	22		22	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power Level		dB	53	53	54	55
Outdoor Unit			**RXS25J2V1B**		**RXS35J2V1B**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23AEXD		1YC23AEXD	
	Motor Output	W	600		600	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.375		0.375	
Refrigerant	Model		R-410A		R-410A	
	Charge	kg	1.0		1.2	
Airflow Rate	H	m³/min (cfm)	33.5 (1,183)	28.3 (999)	36.0 (1,271)	28.3 (999)
	SL		30.1 (1,063)	25.6 (904)	30.1 (1,063)	25.6 (904)
Fan	Type		Propeller		Propeller	
	Motor Output	W	23		23	
Running Current (Rated)		A	3.37 - 3.28 - 3.09	4.34 - 4.16 - 3.97	4.92 - 4.74 - 4.55	5.42 - 5.14 - 4.95
Power Consumption (Rated)		W	580 - 580 - 580	906 - 906 - 906	1,052 - 1,052 - 1,052	1,152 - 1,152 - 1,152
Power Factor		%	78.2 - 76.9 - 78.2	94.9 - 94.7 - 95.1	97.2 - 96.5 - 96.3	96.6 - 97.4 - 97.0
Starting Current		A	4.7		5.8	
Dimensions (H × W × D)		mm	550 × 765 × 285		550 × 765 × 285	
Packaged Dimensions (H × W × D)		mm	612 × 906 × 364		612 × 906 × 364	
Weight (Mass)		kg	34		34	
Gross Weight (Gross Mass)		kg	38		38	
Sound Pressure Level	H / SL	dB(A)	46 / 43	47 / 44	48 / 44	48 / 45
Sound Power Level	H	dB	61	62	63	63
Drawing No.			3D059564		3D059567	

Note: ■ The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

50 Hz, 220 - 230 - 240 V

Model						
Model	Indoor Unit		FLXS25BAVMB		FLXS35BAVMB	
	Outdoor Unit		RXS25K3V1B		RXS35K2V1B	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min. ~ Max.)		kW	2.5 (1.2 ~ 3.0)	3.4 (1.2 ~ 4.5)	3.5 (1.2 ~ 3.8)	4.0 (1.4 ~ 5.0)
		Btu/h	8,500 (4,100 ~ 10,200)	11,600 (4,100 ~ 15,400)	11,900 (4,100 ~ 13,000)	13,600 (4,100 ~ 17,100)
		kcal/h	2,150 (1,030 ~ 2,580)	2,920 (1,030 ~ 3,870)	3,010 (1,030 ~ 3,270)	3,440 (1,030 ~ 4,300)
Moisture Removal		L/h	1.2	—	1.9	—
Running Current (Rated)		A	3.7 - 3.6 - 3.4	4.7 - 4.5 - 4.3	5.3 - 5.1 - 4.9	5.8 - 5.5 - 5.3
Power Consumption Rated (Min. ~ Max.)		W	650 (300 ~ 860)	980 (290 ~ 1,490)	1,130 (300 ~ 1,260)	1,230 (290 ~ 1,850)
Power Factor		%	79.9 - 78.5 - 79.7	94.8 - 94.7 - 95.0	96.9 - 96.3 - 96.1	96.4 - 97.2 - 96.7
COP Rated (Min. ~ Max.)		W/W	3.85 (4.00 ~ 3.49)	3.47 (4.14 ~ 3.02)	3.10 (4.00 ~ 3.02)	3.25 (4.14 ~ 2.70)
Piping Connections	Liquid	mm	φ 6.4		φ 6.4	
	Gas	mm	φ 9.5		φ 9.5	
	Drain	mm	φ 18.0		φ 18.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		m	20		20	
Max. Interunit Height Difference		m	15		15	
Chargeless		m	10		10	
Amount of Additional Charge of Refrigerant		g/m	20		20	
Indoor Unit			**FLXS25BAVMB**		**FLXS35BAVMB**	
Front Panel Color			Almond White		Almond White	
Airflow Rate	H	m³/min (cfm)	7.6 (268)	9.2 (325)	8.6 (304)	9.8 (346)
	M		6.8 (240)	8.3 (293)	7.6 (268)	8.9 (314)
	L		6.0 (212)	7.4 (261)	6.6 (233)	8.0 (282)
	SL		5.2 (184)	6.6 (233)	5.6 (198)	7.2 (254)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.36 - 0.34 - 0.33	0.38 - 0.36 - 0.35	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	74 - 74 - 74	78 - 78 - 78	78 - 78 - 78
Power Factor		%	96.4 - 95.1 - 94.1	93.4 - 94.6 - 93.4	93.3 - 94.2 - 92.9	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566		280 × 1,100 × 566	
Weight (Mass)		kg	16		16	
Gross Weight (Gross Mass)		kg	22		22	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power Level		dB	51	51	53	54
Outdoor Unit			**RXS25K3V1B**		**RXS35K2V1B**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23AEXD		1YC23AEXD	
	Motor Output	W	600		600	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.375		0.375	
Refrigerant	Model		R-410A		R-410A	
	Charge	kg	1.0		1.2	
Airflow Rate	H	m³/min (cfm)	33.5 (1,183)	28.3 (999)	36.0 (1,271)	28.3 (999)
	SL		30.1 (1,063)	25.6 (904)	30.1 (1,063)	25.6 (904)
Fan	Type		Propeller		Propeller	
	Motor Output	W	23		23	
Running Current (Rated)		A	3.37 - 3.28 - 3.09	4.34 - 4.16 - 3.97	4.92 - 4.74 - 4.55	5.42 - 5.14 - 4.95
Power Consumption (Rated)		W	580 - 580 - 580	906 - 906 - 906	1,052 - 1,052 - 1,052	1,152 - 1,152 - 1,152
Power Factor		%	78.2 - 76.9 - 78.2	94.9 - 94.7 - 95.1	97.2 - 96.5 - 96.3	96.6 - 97.4 - 97.0
Starting Current		A	4.7		5.8	
Dimensions (H × W × D)		mm	550 × 765 × 285		550 × 765 × 285	
Packaged Dimensions (H × W × D)		mm	612 × 906 × 364		612 × 906 × 364	
Weight (Mass)		kg	34		34	
Gross Weight (Gross Mass)		kg	38		38	
Sound Pressure Level	H / SL	dB(A)	46 / 43	47 / 44	48 / 44	48 / 45
Sound Power Level	H	dB	62	63	63	63
Drawing No.			3D081090		3D081091	

Note: ■ The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB / 24°CWB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	5 m

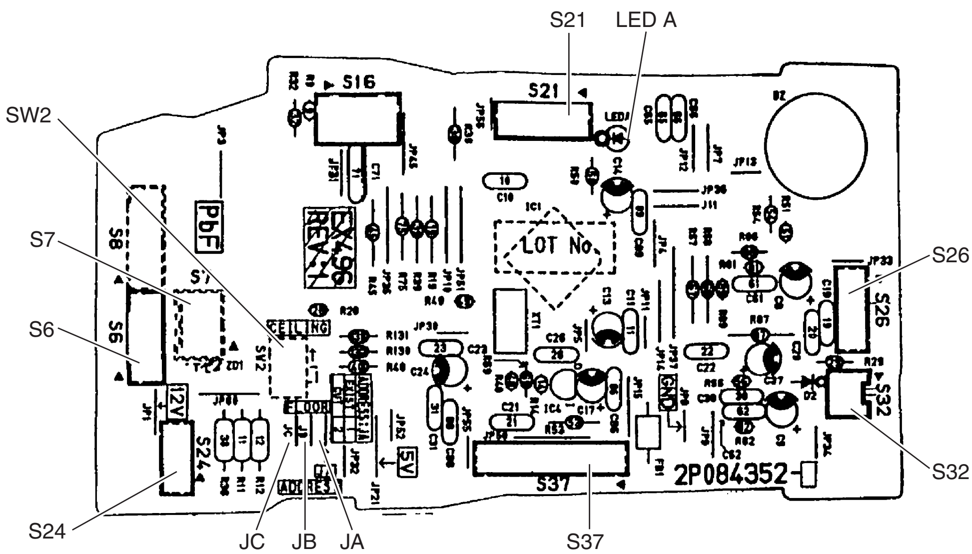
Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

Part 3 Printed Circuit Board Connector Wiring Diagram

1. Indoor Unit

Control PCB

1) S6 Connector for swing motor (horizontal swing)
2) S7 Connector for AC fan motor
3) S21 Connector for centralized control (HA)
4) S24 Connector for display PCB
5) S26 Connector for signal receiver PCB
6) S32 Connector for indoor heat exchanger thermistor
7) S37 Connector for power supply PCB
8) JA Address setting jumper
   ∗ Refer to page 112 for detail.
9) JB Fan speed setting when compressor stops for thermostat OFF
   JC Power failure recovery function
   ∗ Refer to page 115 for detail.
10) SW2 Select switch for installation (ceiling or floor)
   ∗ Refer to page 115 for detail.
11) LED A LED for service monitor (green)

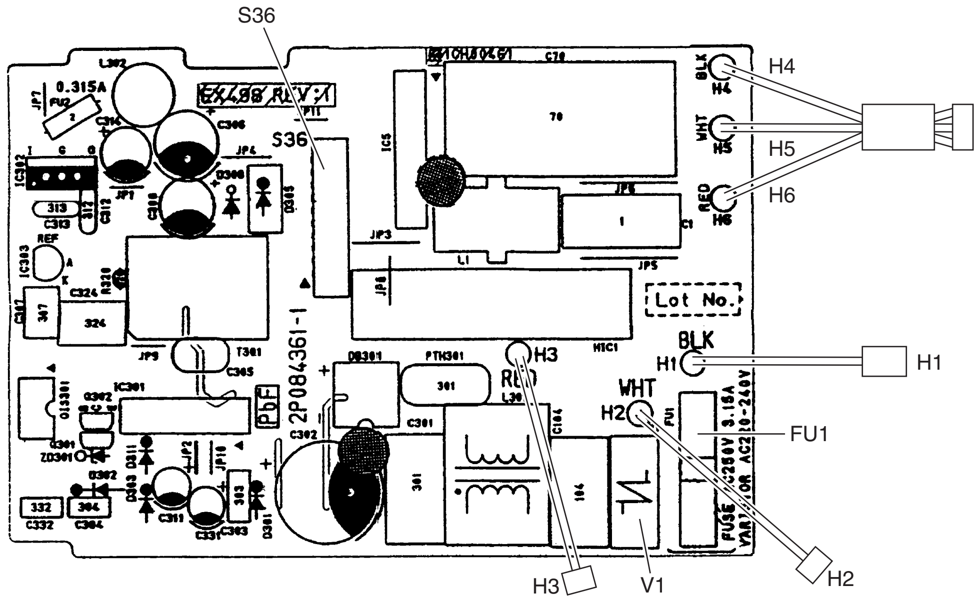


2P084352-3

Caution **Replace the PCB if you accidentally cut the jumpers other than JA, JB, and JC.**
Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

Power Supply PCB

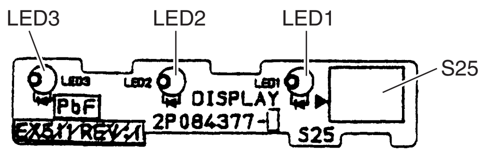
1) S36 Connector for control PCB
2) H1, H2, H3 Connector for terminal board
3) H4, H5, H6 Connector for AC fan motor
4) V1 Varistor
5) FU1 Fuse (3.15A, 250V)



2P084361-1

Display PCB

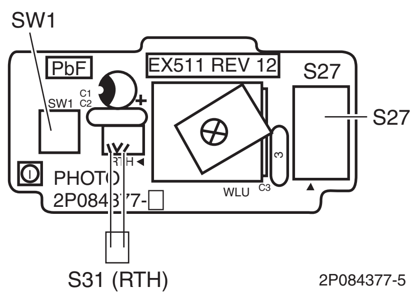
1) S25 Connector for control PCB
2) LED1 (H1P) LED for operation (green)
3) LED2 (H2P) LED for timer (yellow)
4) LED3 (H3P) LED for HOME LEAVE operation (red)



2P084377-5

Signal Receiver PCB

1) S27 Connector for control PCB
2) S31 (RTH) Connector for room temperature thermistor
3) SW1 (S1W) Forced cooling operation [ON/OFF] button
∗ Refer to page 110 for detail.



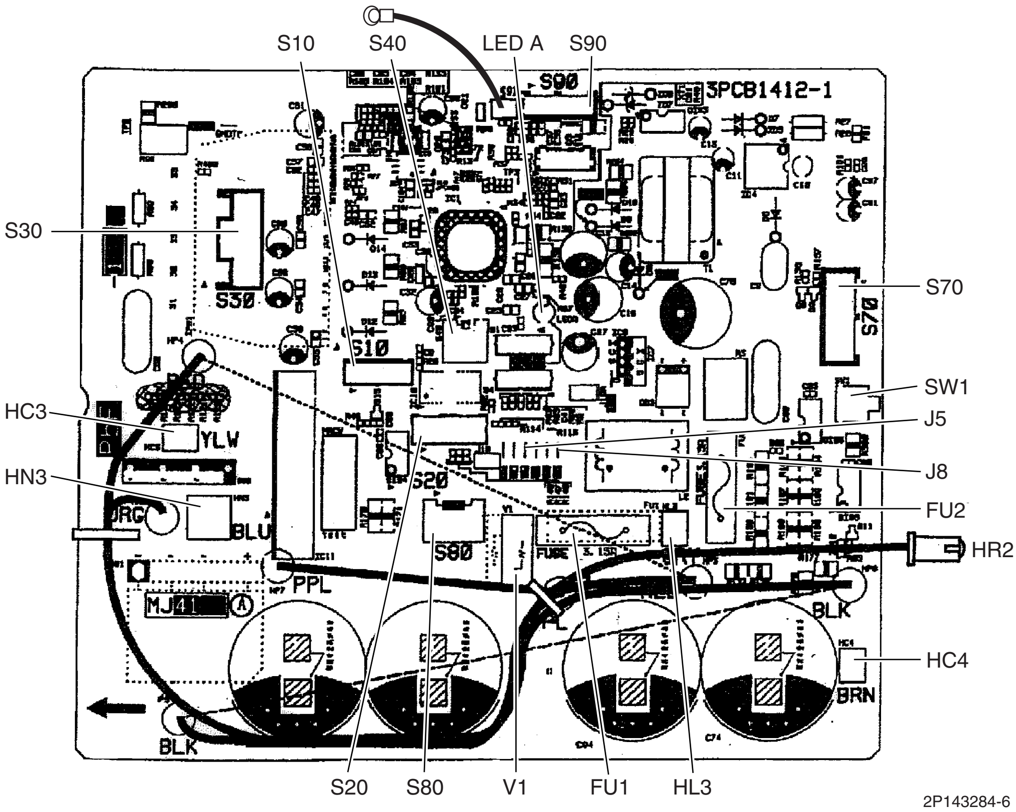
2P084377-5

2. Outdoor Unit

2.1 RK(X)S25/35E2V1B

Main PCB

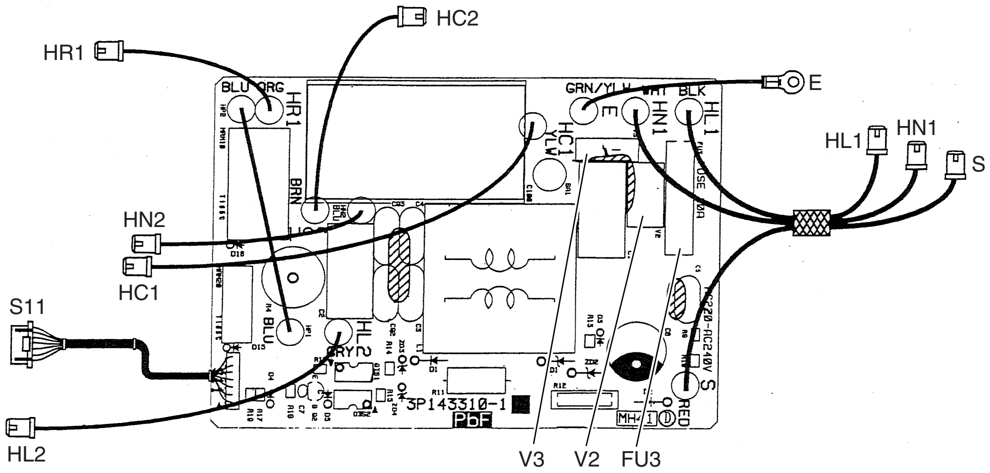
1)	S10	Connector for filter PCB
2)	S20	Connector for electronic expansion valve coil
3)	S30	Connector for compressor
4)	S40	Connector for overload protector
5)	S70	Connector for fan motor
6)	S80	Connector for four way valve coil
7)	S90	Connector for thermistors (outdoor temperature, outdoor heat exchanger, discharge pipe)
8)	HC3, HC4 HL3, HN3	Connector for filter PCB
9)	HR2	Connector for reactor
10)	FU1, FU2	Fuse (3.15 A, 250 V)
11)	LED A	LED for service monitor (green)
12)	V1	Varistor
13)	J5	Jumper for improvement of defrost performance ∗ Refer to page 115 for detail.
14)	J8	Jumper for facility setting ∗ Refer to page 113 for detail.
15)	SW1	Forced cooling operation ON/OFF button ∗ Refer to page 110 for detail.



Caution **<u>Replace the PCB if you accidentally cut the jumpers other than J5 and J8.</u>**
Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

Filter PCB

1) S11 Connector for main PCB
2) HL1, HN1, S Connector for terminal board
3) E Terminal for earth wire
4) HC1, HC2 Connector for main PCB
   HL2, HN2
5) HR1 Connector for reactor
6) FU3 Fuse (20 A, 250 V)
7) V2, V3 Varistor

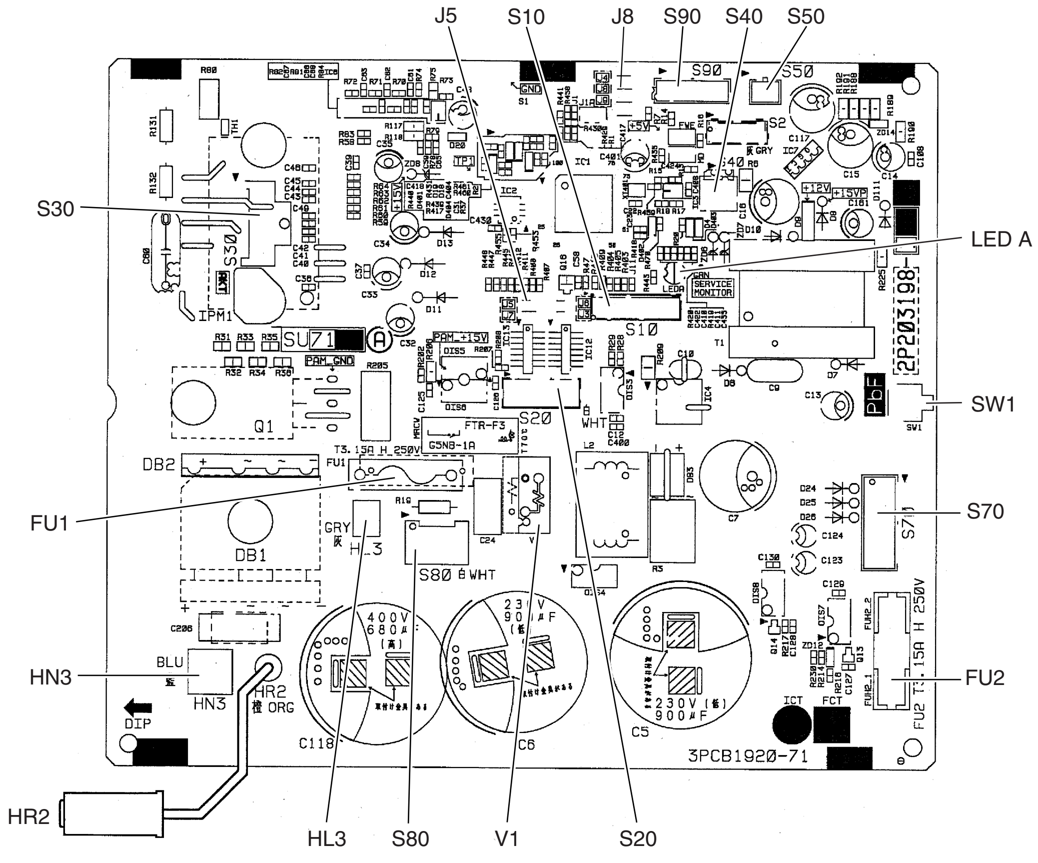


3P143310-1

2.2 RK(X)S25/35G2V1B

Main PCB

1) S10 — Connector for filter PCB
2) S20 — Connector for electronic expansion valve coil
3) S30 — Connector for compressor
4) S40 — Connector for overload protector
5) S50 — Connector for magnetic relay
6) S70 — Connector for fan motor
7) S80 — Connector for four way valve coil
8) S90 — Connector for thermistors
(outdoor temperature, outdoor heat exchanger, discharge pipe)
9) HL3, HN3 — Connector for filter PCB
10) HR2 — Connector for reactor
11) FU1, FU2 — Fuse (3.15 A, 250 V)
12) LED A — LED for service monitor (green)
13) V1 — Varistor
14) J5 — Jumper for improvement of defrost performance
∗ Refer to page 115 for detail.
15) J8 — Jumper for facility setting
∗ Refer to page 113 for detail.
16) SW1 — Forced cooling operation ON/OFF button
∗ Refer to page 110 for detail.

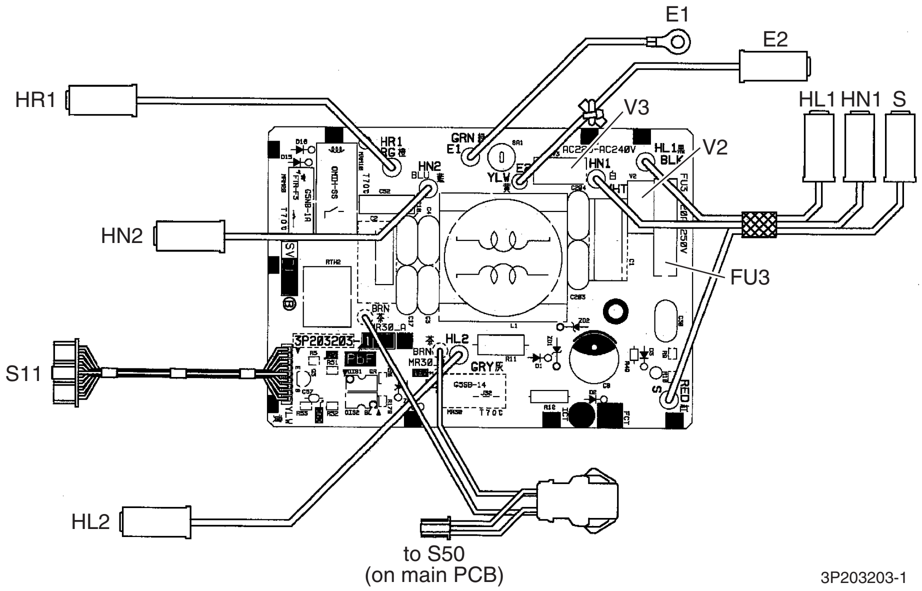


2P203198-1

Caution **<u>Replace the PCB if you accidentally cut the jumpers other than J5 and J8.</u>**
Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

Filter PCB

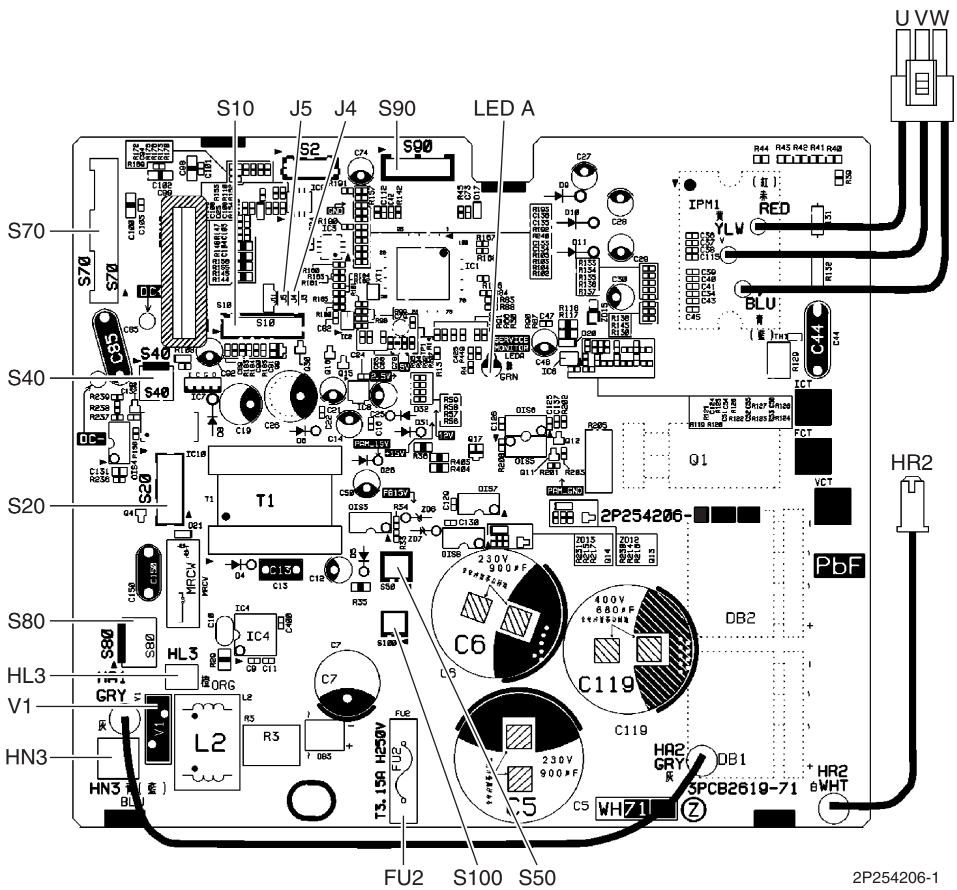
1)	S11	Connector for main PCB
2)	HL1, HN1, S	Connector for terminal board
3)	E1	Terminal for earth wire
4)	E2	Connector for terminal board (earth)
5)	HL2, HN2	Connector for main PCB
6)	HR1	Connector for reactor
7)	FU3	Fuse (20 A, 250 V)
8)	V2, V3	Varistor



2.3 RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

Main PCB

1) S10 Connector for filter PCB
2) S20 Connector for electronic expansion valve coil
3) S40 Connector for overload protector
4) S50 Connector for magnetic relay
5) S70 Connector for fan motor
6) S80 Connector for four way valve coil
7) S90 Connector for thermistors (outdoor temperature, outdoor heat exchanger, discharge pipe)
8) S100 Connector for forced operation button PCB
9) HL3, HN3 Connector for filter PCB
10) HR2 Connector for reactor
11) U, V, W Connector for compressor
12) FU2 Fuse (3.15 A, 250 V)
13) LED A LED for service monitor (green)
14) V1 Varistor
15) J4 Jumper for facility setting
    ∗ Refer to page 113 for detail.
16) J5 Jumper for improvement of defrost performance
    ∗ Refer to page 115 for detail.

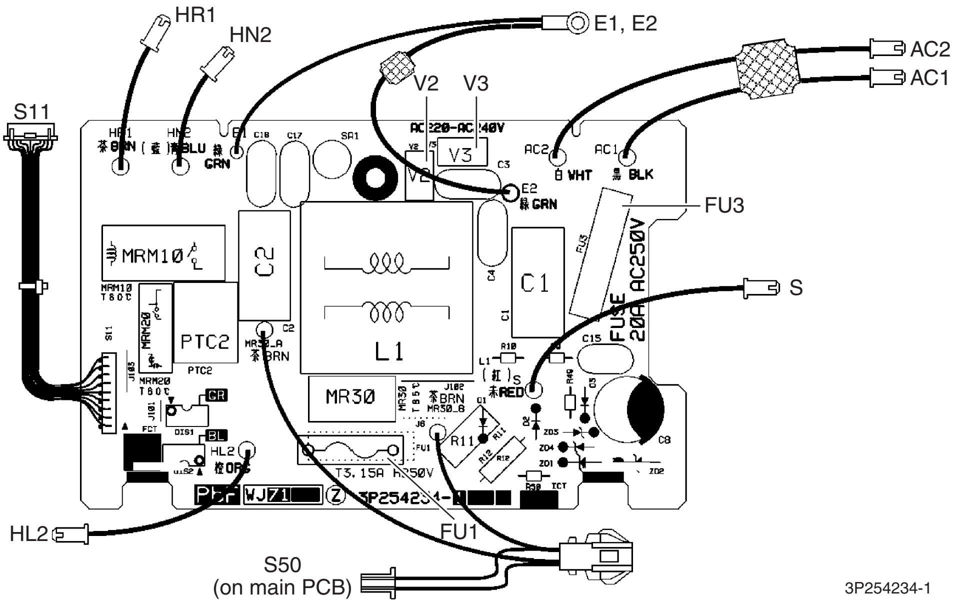


2P254206-1
2P254206-11

Caution **Replace the PCB if you accidentally cut the jumpers other than J4 and J5.**
Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

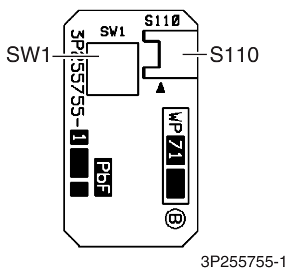
Filter PCB

1) S11 Connector for main PCB
2) AC1, AC2, S Connector for terminal board
3) E1, E2 Terminal for earth wire
4) HL2, HN2 Connector for main PCB
5) HR1 Connector for reactor
6) FU1 Fuse (3.15 A, 250 V)
7) FU3 Fuse (20 A, 250 V)
8) V2, V3 Varistor



Forced Operation Button PCB

1) S110 Connector for main PCB
2) SW1 Forced cooling operation ON/OFF button
∗ Refer to page 110 for detail.



Part 4
Function and Control

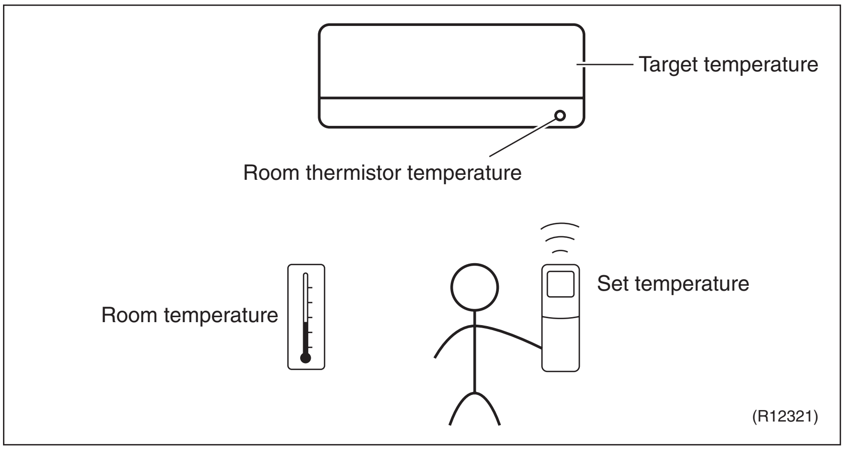
1. Main Functions

1.1 Temperature Control

Definitions of Temperatures

The definitions of temperatures are classified as following.

- Room temperature: temperature of lower part of the room
- Set temperature: temperature set by remote controller
- Room thermistor temperature: temperature detected by room temperature thermistor
- Target temperature: temperature determined by microcomputer



★ The illustration is for wall mounted type as representative.

Temperature Control

The temperature of the room is detected by the room temperature thermistor. However, there is a difference between the “temperature detected by room temperature thermistor” and the “temperature of lower part of the room”, depending on the type of the indoor unit or installation condition. Practically, the temperature control is done by the “target temperature appropriately adjusted for the indoor unit” and the “temperature detected by room temperature thermistor”.

1.2 Frequency Principle

Main Control Parameters

The frequency of the compressor is controlled by the following 2 parameters:
- The load condition of the operating indoor unit
- The difference between the room thermistor temperature and the target temperature

Additional Control Parameters

The target frequency is adapted by additional parameters in the following cases:
- Frequency restrictions
- Initial settings
- Forced cooling operation

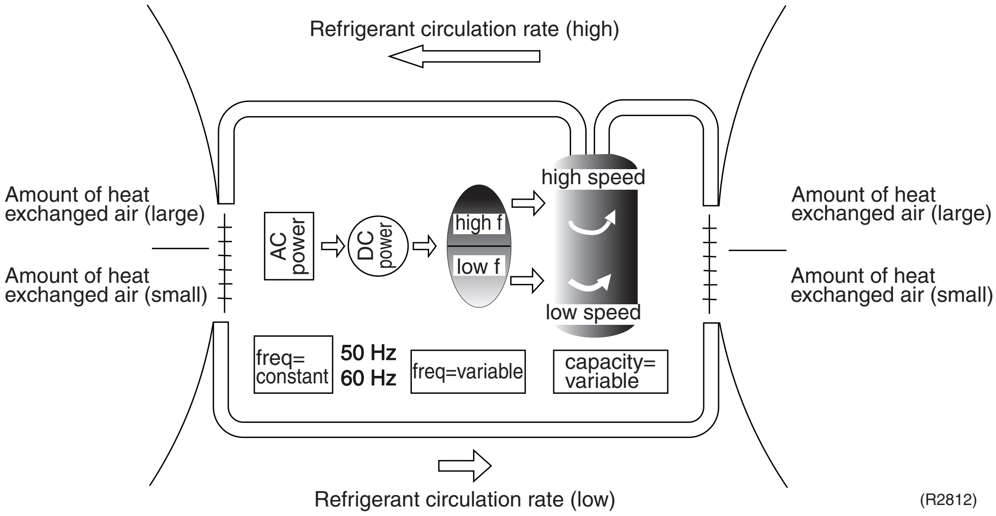
Inverter Principle

To regulate the capacity, a frequency control is needed. The inverter makes it possible to alter the rotation speed of the compressor. The following table explains the conversion principle:

Phase	Description
1	The supplied AC power source is converted into the DC power source for the present.
2	The DC power source is reconverted into the three phase AC power source with variable frequency. ■ When the frequency increases, the rotation speed of the compressor increases resulting in an increased refrigerant circulation. This leads to a higher amount of the heat exchange per unit. ■ When the frequency decreases, the rotation speed of the compressor decreases resulting in a decreased refrigerant circulation. This leads to a lower amount of the heat exchange per unit.

Drawing of Inverter

The following drawing shows a schematic view of the inverter principle:



Inverter Features

The inverter provides the following features:

- The regulating capacity can be changed according to the changes in the outdoor temperature and cooling / heating load.
- Quick heating and quick cooling
  The rotation speed of the compressor is increased when starting the heating (or cooling). This enables to reach the set temperature quickly.
- Even during extreme cold weather, high capacity is achieved. It is maintained even when the outdoor temperature is 2°C.
- Comfortable air conditioning
  A fine adjustment is integrated to keep the room temperature constant.
- Energy saving heating and cooling
  Once the set temperature is reached, the energy saving operation enables to maintain the room temperature at low power.

Frequency Limits

The following functions regulate the minimum and maximum frequency:

Frequency	Functions
Low	■ Four way valve operation compensation. Refer to page 41.
High	■ Compressor protection function. Refer to page 41. ■ Discharge pipe temperature control. Refer to page 42. ■ Input current control. Refer to page 43. ■ Freeze-up protection control. Refer to page 44. ■ Heating peak-cut control. Refer to page 44. ■ Defrost control. Refer to page 46.

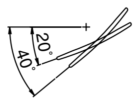
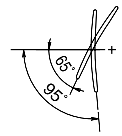
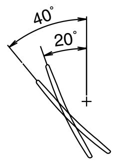
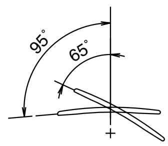
Forced Cooling Operation

Refer to page 110 for detail.

1.3 Airflow Direction Control

Auto-Swing

The following table explains the auto swing process for cooling, dry, fan, and heating:

	Up and Down	
	Cooling / Dry / Fan	Heating
Ceiling	 (R2964)	 (R2963)
Floor	 (R2967)	 (R2966)

1.4 Fan Speed Control for Indoor Unit

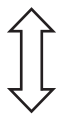
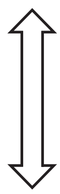
Outline

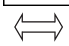
Phase control and fan speed control contains 9 steps: LLL, LL, SL, L, ML, M, MH, H, and HH. The airflow rate can be automatically controlled depending on the difference between the room thermistor temperature and the target temperature. This is done through phase control and Hall IC control.

For more information about Hall IC, refer to the troubleshooting for fan motor on page 63.

Automatic Fan Speed Control

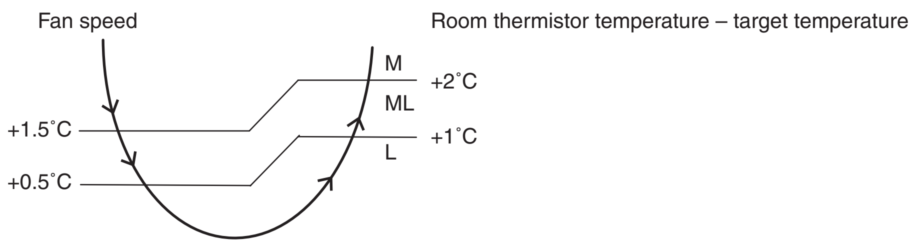
In automatic fan speed operation, the step “SL” is not available.

Step	Cooling	Heating
LLL	 (R6833)	 (R6834)
LL		
L		
ML		
M		
MH		
H		
HH (POWERFUL)		

 = The airflow rate is automatically controlled within this range when the [FAN] setting button is set to automatic.

<Cooling>

The following drawing explains the principle of fan speed control for cooling.



(R12390)

<Heating>

In heating operation, the fan speed is regulated according to the indoor heat exchanger temperature and the difference between the room thermistor temperature and the target temperature.

Note:

1. During POWERFUL operation, the fan rotates at H tap + 50 rpm.
2. The fan stops during defrost control.

1.5 Program Dry Operation

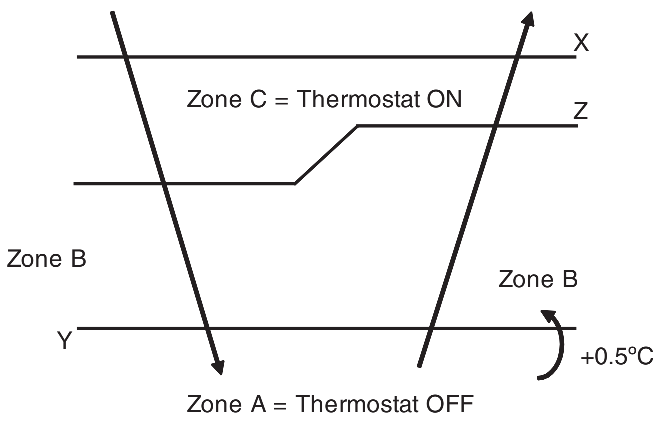
Outline

Program dry operation removes humidity while preventing the room temperature from lowering. Since the microcomputer controls both the temperature and airflow rate, the temperature adjustment and [FAN] setting buttons are inoperable.

Detail

The microcomputer automatically sets the temperature and airflow rate. The difference between the room thermistor temperature at start-up and the target temperature is divided into two zones. Then, the unit operates in an appropriate capacity for each zone to maintain the temperature and humidity at a comfortable level.

Room thermistor temperature at start-up	Target temperature X	Thermostat OFF point Y	Thermostat ON point Z
24°C or more	Room thermistor temperature at start-up	X – 2.5°C	X – 0.5°C or Y + 0.5°C (zone B) continues for 10 min.
23.5°C ~ 18°C		X – 2.0°C	X – 0.5°C or Y + 0.5°C (zone B) continues for 10 min.
17.5°C ~	18°C	X – 2.0°C	X – 0.5°C = 17.5°C or Y + 0.5°C (zone B) continues for 10 min.



(R11581)

1.6 Automatic Operation

Outline

Automatic Cooling / Heating Function

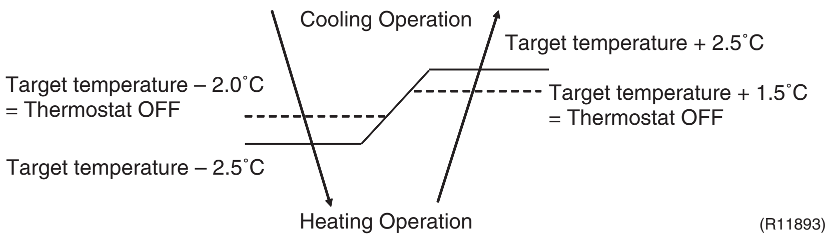
When the automatic operation is selected with the remote controller, the microcomputer automatically determines the operation mode as cooling or heating according to the room temperature and the set temperature at start-up.

The unit automatically switches the operation mode to maintain the room temperature at the set temperature.

Detail

Ts: set temperature (set by remote controller)
Tt: target temperature (determined by microcomputer)
Tr: room thermistor temperature (detected by room temperature thermistor)
C: correction value

1. The set temperature (Ts) determines the target temperature (Tt).
   (Ts = 18 ~ 30°C).
2. The target temperature (Tt) is calculated as;
   Tt = Ts + C
   where C is the correction value.
   C = 0°C
3. Thermostat ON/OFF point and operation mode switching point are as follows.
   Tr means the room thermistor temperature.
   (1) Heating → Cooling switching point:
   Tr ≥ Tt + 2.5°C
   (2) Cooling → Heating switching point:
   Tr < Tt – 2.5°C
   (3) Thermostat ON/OFF point is the same as the ON/OFF point of cooling or heating operation.
4. During initial operation
   Tr ≥ Ts : Cooling operation
   Tr < Ts : Heating operation



Ex: When the target temperature is 25°C
Cooling → 23°C: Thermostat OFF → 22°C: Switch to heating
Heating → 26.5°C: Thermostat OFF → 27.5°C: Switch to cooling

1.7 Thermostat Control

Outline

Thermostat control is based on the difference between the room thermistor temperature and the target temperature.

Detail

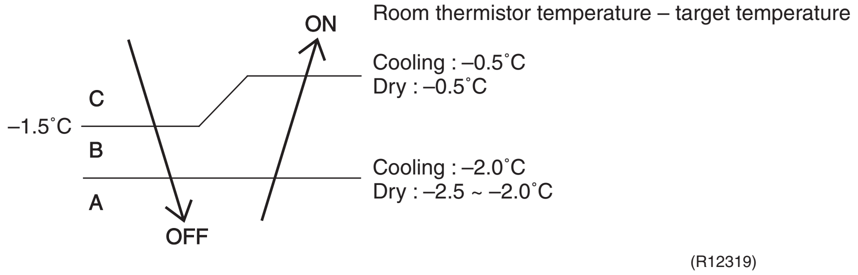
Thermostat OFF Condition

- The temperature difference is in the zone A.

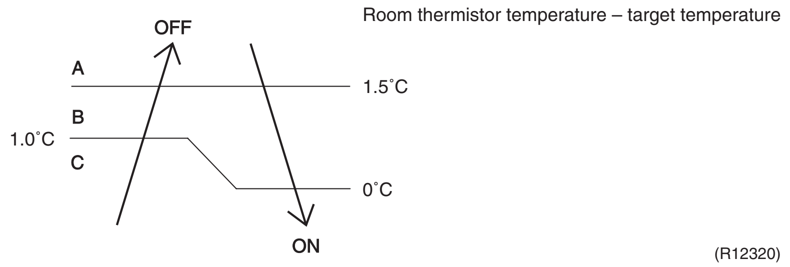
Thermostat ON Condition

- The temperature difference returns to the zone C after being in the zone A.
- The system resumes from defrost control in any zones except A.
- The operation turns on in any zones except A.
- The monitoring time has passed while the temperature difference is in the zone B. (Cooling / Dry: 10 minutes, Heating: 10 seconds)

<Cooling / Dry>



<Heating>



Refer to “Temperature Control” on page 25 for detail.

1.8 NIGHT SET Mode

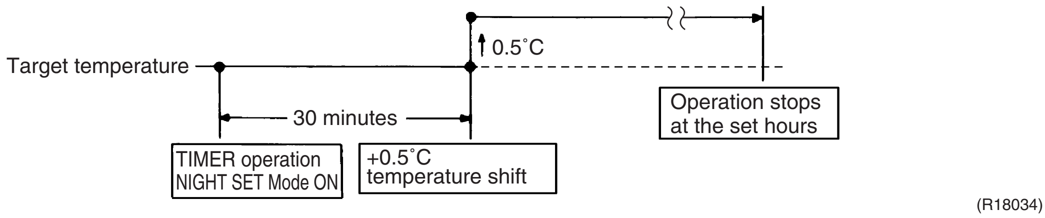
Outline

When the OFF TIMER is set, the NIGHT SET Mode is automatically activated. The NIGHT SET Mode keeps the airflow rate setting.

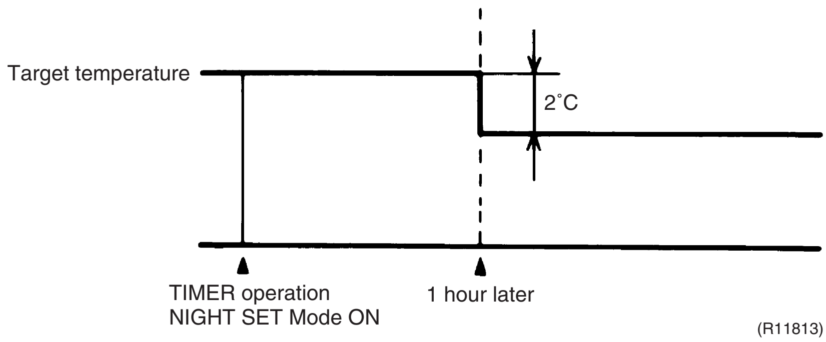
Detail

The NIGHT SET Mode continues operation at the target temperature for the first one hour, then automatically raises the target temperature slightly in the case of cooling, or lowers it slightly in the case of heating. This prevents excessive cooling in summer and excessive heating in winter to ensure comfortable sleeping conditions, and also conserves electricity.

<Cooling>



<Heating>



1.9 HOME LEAVE Operation

Outline

HOME LEAVE operation is a function that allows you to record your favorite set temperature and airflow rate. You can start your favorite operation mode simply by pressing the [HOME LEAVE] button on the remote controller.

Detail

Start of Function

The function starts when the [HOME LEAVE] button is pressed in cooling operation, heating operation (including POWERFUL operation), or while the operation is stopped. If this button is pressed in POWERFUL operation, the POWERFUL operation is canceled and this function becomes effective.

- The [HOME LEAVE] button is ineffective in dry operation and fan operation.

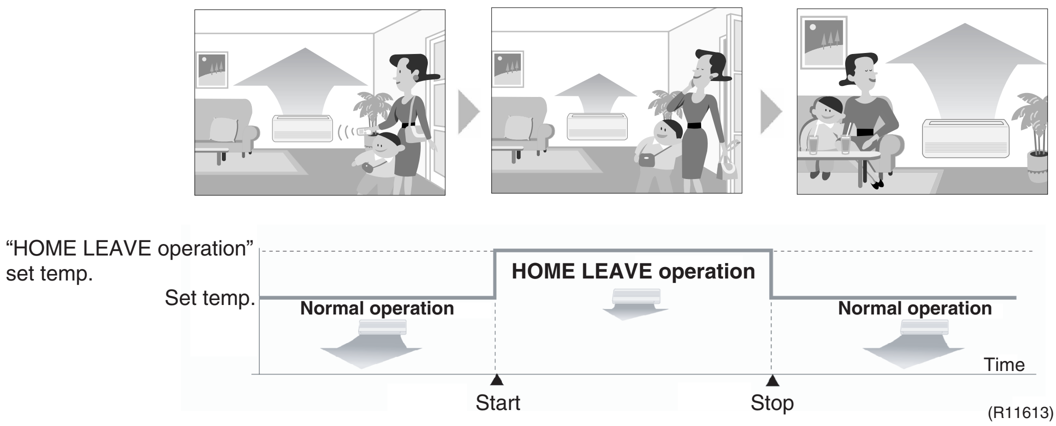
Details of Function

A mark representing HOME LEAVE is indicated on the display of the remote controller. The indoor unit is operated according to the set temperature and airflow rate for HOME LEAVE which were pre-set in the memory of the remote controller.
The LED (red) of indoor unit representing HOME LEAVE lights up. (It goes out when the operation is stopped.)

End of Function

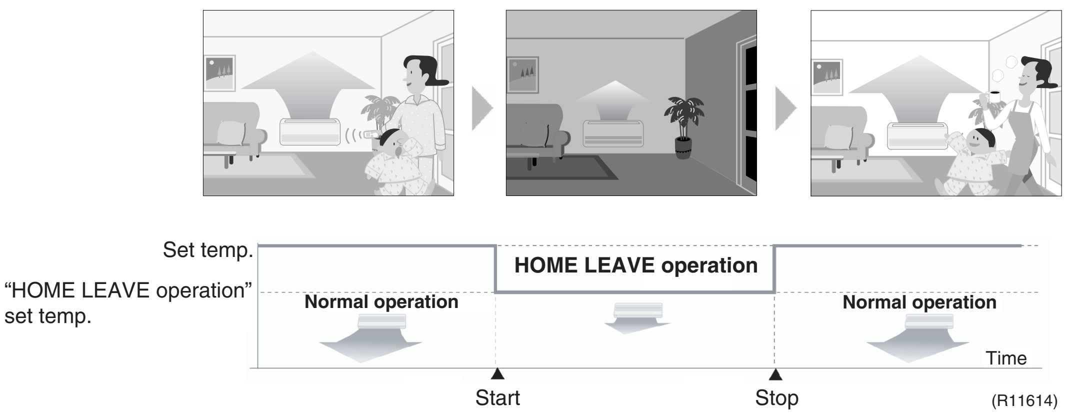
The function ends when the [HOME LEAVE] button is pressed again during HOME LEAVE operation or when the [POWERFUL] button is pressed.

<Cooling>



(R11613)

<Heating>



(R11614)

How to Set the Temperature and Airflow Rate

When using HOME LEAVE operation for the first time, set the temperature and airflow rate for HOME LEAVE operation. Record your preferred temperature and airflow rate.

	Initial setting		Selectable range	
	temperature	Airflow rate	temperature	Airflow rate
Cooling	25°C	[A]	18 - 32°C	5 step, [A] , (quiet)
Heating	25°C	[A]	10 - 30°C	5 step, [A] , (quiet)

1. Press [HOME LEAVE] button.
   Make sure [(home leave)] is displayed in the remote controller display.
2. Adjust the set temperature with ▲ or ▼ as you like.
3. Adjust the airflow rate with [FAN] setting button as you like.

HOME LEAVE operation will run with these settings the next time you use the unit. To change the recorded information, repeat steps 1 – 3.

Others

- The set temperature and airflow rate are memorized in the remote controller. When the remote controller is reset due to replacement of battery, it is necessary to set the temperature and airflow rate again for HOME LEAVE operation.
- The operation mode cannot be changed while HOME LEAVE operation is being used.

1.10 Inverter POWERFUL Operation

Outline

In order to exploit the cooling and heating capacity to full extent, operate the air conditioner by increasing the indoor fan rotating speed and the compressor frequency.

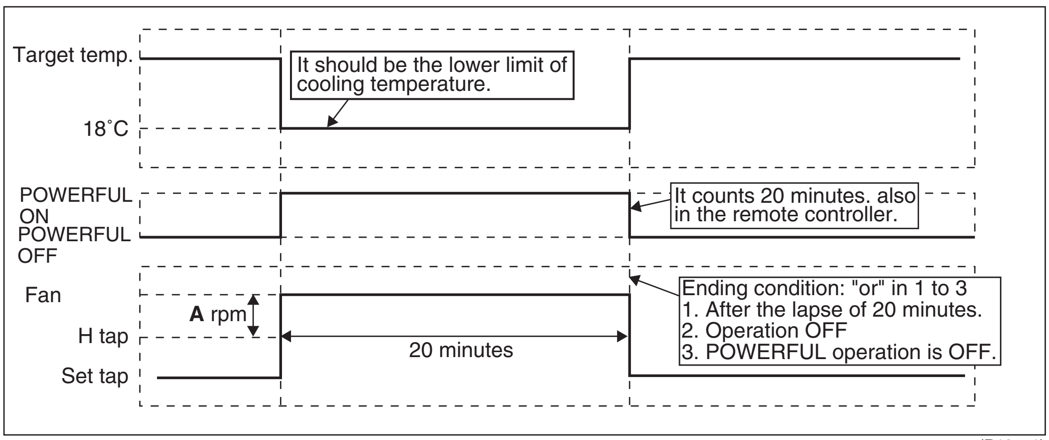
Detail

When the [POWERFUL] button is pressed, the fan speed and target temperature are converted to the following states for 20 minutes.

Operation mode	Fan speed	Target temperature
COOL	H tap + **A** rpm	18°C
DRY	Dry rotating speed + **A** rpm	Lowered by 2.5°C
HEAT	H tap + **A** rpm	30°C
FAN	H tap + **A** rpm	—
AUTO	Same as cooling / heating in POWERFUL operation	The target temperature is kept unchanged.

A = 50 rpm

Ex: POWERFUL operation in cooling



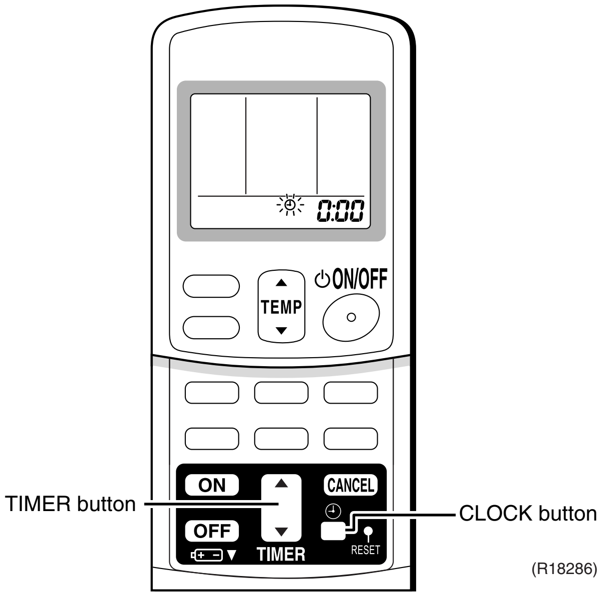
(R13571)

1.11 Clock Setting

ARC433 Series

The clock can be set by taking the following steps:

1. Press the [CLOCK] button.
   → 0:00 is displayed and ⊙ blinks.
2. Press the [TIMER] ▲ or ▼ button to set the clock to the present time.
   Holding down the [TIMER] ▲ or ▼ button increases or decreases the time display rapidly.
3. Press the [CLOCK] button again.
   → : blinks and clock setting is completed.



(R18286)

1.12 Other Functions

1.12.1 Hot-Start Function

In order to prevent the cold air blast that normally comes when heating operation is started, the temperature of the indoor heat exchanger is detected, and the airflow is either stopped or made very weak thereby carrying out comfortable heating of the room.
*The cold air blast is also prevented using similar control when the defrost control starts or when the thermostat is turned ON.

1.12.2 Signal Receiving Sign

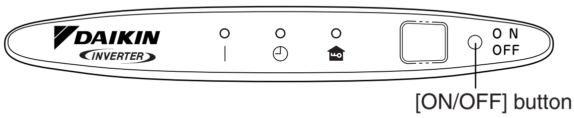
When the indoor unit receives a signal from the remote controller, the unit emits a signal receiving sound.

1.12.3 Indoor Unit [ON/OFF] Button

An [ON/OFF] button is provided on the display of the unit.

- Press the [ON/OFF] button once to start operation. Press once again to stop it.
- The [ON/OFF] button is useful when the remote controller is missing or the battery has run out.
- The operation mode refers to the following table.

	Operation mode	Temperature setting	Airflow rate
Cooling Only	COOL	22°C	Automatic
Heat Pump	AUTO	25°C	Automatic



(R18370)

<Forced cooling operation>

Forced cooling operation can be started by pressing the [ON/OFF] button for 5 to 9 seconds while the unit is not operating.
Refer to page 110 for detail.

Note: When the [ON/OFF] button is pressed for 10 seconds or more, the forced cooling operation is stopped.

1.12.4 Photocatalytic Deodorizing Filter

The photocatalytic deodorizing filter powerfully decomposes odor of tobacco, pet, etc. The deodorizing power is regenerated simply by being exposed to the sunshine. It is recommended to dry the filter in the sun for about 6 hours (after vacuuming the filter) every 6 months.

1.12.5 Air-Purifying Filter

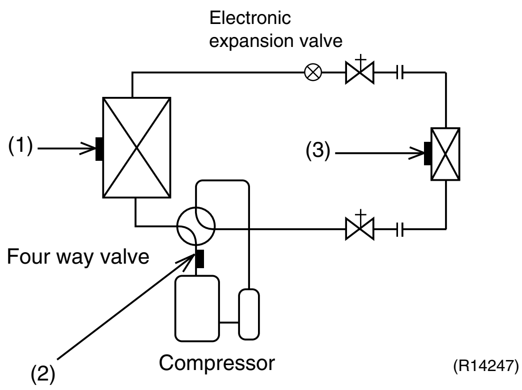
The air-purifying filter collects tobacco smoke, pollen, etc. with electrostatic agency.
This filter includes a deodorizing active carbon filter that removes minute particles of odor.
Replace the air-purifying filter every 3 months.

1.12.6 Auto-restart Function

If a power failure (including one for just a moment) occurs during the operation, the operation restarts automatically when the power is restored in the same condition as before the power failure.

Note: It takes 3 minutes to restart the operation because the 3-minute standby function is activated.

2. Function of Thermistor



(1) Outdoor Heat Exchanger Thermistor

1. The outdoor heat exchanger thermistor is used for controlling the target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the electronic expansion valve opening so that the target discharge pipe temperature can be obtained.
2. In cooling operation, the outdoor heat exchanger thermistor is used for detecting the disconnection of the discharge pipe thermistor. When the discharge pipe temperature drops below the outdoor heat exchanger temperature by more than a certain value, the discharge pipe thermistor is judged as disconnected.
3. In cooling operation, the outdoor heat exchanger thermistor is used for high pressure protection.

(2) Discharge Pipe Thermistor

1. The discharge pipe thermistor is used for controlling discharge pipe temperature. If the discharge pipe temperature (used in place of the inner temperature of the compressor) rises abnormally, the operating frequency becomes lower or the operation halts.
2. The discharge pipe thermistor is used for detecting disconnection of the discharge pipe thermistor.

(3) Indoor Heat Exchanger Thermistor

1. The indoor heat exchanger thermistor is used for controlling the target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the electronic expansion valve opening so that the target discharge pipe temperature can be obtained.
2. In cooling operation, the indoor heat exchanger thermistor is used for freeze-up protection control. If the indoor heat exchanger temperature drops abnormally, the operating frequency becomes lower or the operation halts.
3. In heating operation, the indoor heat exchanger thermistor is used for detecting the disconnection of the discharge pipe thermistor. When the discharge pipe temperature drops below the indoor heat exchanger temperature by more than a certain value, the discharge pipe thermistor is judged as disconnected.

3. Control Specification

3.1 Mode Hierarchy

Outline

Air conditioner control has normal operation mode, forced operation mode, and power transistor test mode for installation and servicing.

Detail

Cooling Only Model

- Air conditioner control mode
  - Forced operation mode
    - Forced cooling operation (for pump down operation)
  - Power transistor test mode
  - Normal operation mode
    - Fan
    - Cooling (includes drying)
    - Stop (indoor unit: OFF)
      - Preheating operation
      - Discharging from capacitor
      - Stop

(R17487)

Heat Pump Model

- Air conditioner control mode
  - Forced operation mode
    - Forced cooling operation (for pump down operation)
  - Power transistor test mode
  - Normal operation mode
    - Fan
    - Cooling (includes drying)
    - Heating
      - Heating
      - Defrosting
    - Stop (indoor unit: OFF)
      - Preheating operation
      - Discharging from capacitor
      - Stop

(R17533)

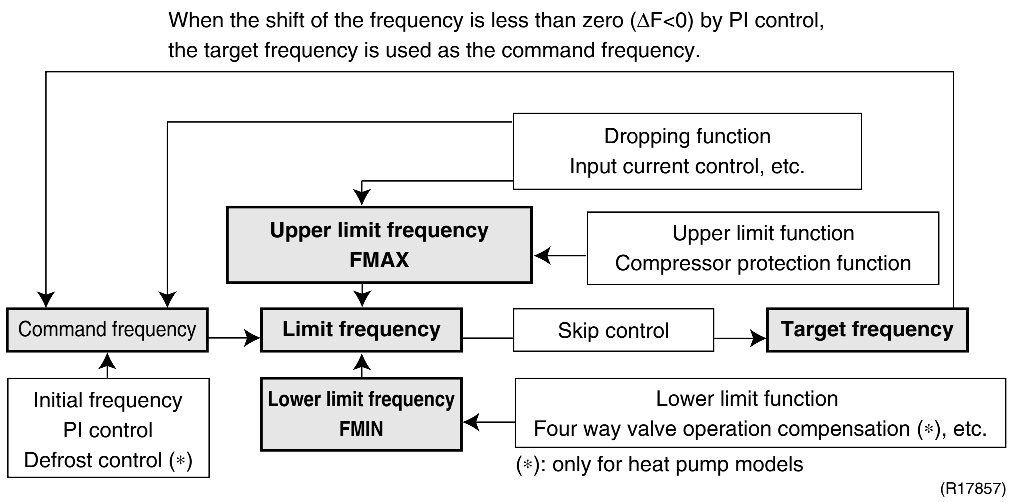
Note: Unless specified otherwise, a dry operation command is regarded as cooling operation.

3.2 Frequency Control

Outline

Frequency is determined according to the difference between the room thermistor temperature and the target temperature.
The function is explained as follows.

1. How to determine frequency
2. Frequency command from the indoor unit (Difference between the room thermistor temperature and the target temperature)
3. Frequency initial setting
4. PI control



Detail

How to Determine Frequency

The compressor's frequency is determined by taking the following steps.

For Cooling Only Model

1. Determine command frequency

- Command frequency is determined in the following order of priority.
  1.Forced cooling
  2.Indoor frequency command

2. Determine upper limit frequency

- The minimum value is set as an upper limit frequency among the frequency upper limits of the following functions:
  Compressor protection, input current, discharge pipe temperature, freeze-up protection.

3. Determine lower limit frequency

- The maximum value is set as a lower limit frequency among the frequency lower limits of the following function:
  Pressure difference upkeep.

4. Determine prohibited frequency

- There is a certain prohibited frequency such as a power supply frequency.

For Heat Pump Model

1. Determine command frequency

- Command frequency is determined in the following order of priority.
  1.Limiting defrost control time
  2.Forced cooling
  3.Indoor frequency command

2. Determine upper limit frequency

- The minimum value is set as an upper limit frequency among the frequency upper limits of the following functions:
  Compressor protection, input current, discharge pipe temperature, heating peak-cut, freeze-up protection, defrost.

3. Determine lower limit frequency

- The maximum value is set as a lower limit frequency among the frequency lower limits of the following functions:
  Four way valve operation compensation, draft prevention, pressure difference upkeep.

4. Determine prohibited frequency

- There is a certain prohibited frequency such as a power supply frequency.

Indoor Frequency Command (ΔD signal)

The difference between the room thermistor temperature and the target temperature is taken as the “ΔD signal” and is used for frequency command.

Temperature difference	ΔD signal	Temperature difference	ΔD signal	Temperature difference	ΔD signal	Temperature difference	ΔD signal
–2.0	∗Th OFF	0	4	2.0	8	4.0	C
–1.5	1	0.5	5	2.5	9	4.5	D
–1.0	2	1.0	6	3.0	A	5.0	E
–0.5	3	1.5	7	3.5	B	5.5	F

∗Th OFF = Thermostat OFF

Frequency Initial Setting

<Outline>

When starting the compressor, the frequency is initialized according to the ΔD value and the Q value of the indoor unit.
Q value: Indoor unit output determined from indoor unit volume, airflow rate and other factors.

PI Control (Determine Frequency Up / Down by ΔD Signal)

1. P control

The ΔD value is calculated in each sampling time (15 ~ 20 seconds), and the frequency is adjusted according to its difference from the frequency previously calculated.

2. I control

If the operating frequency does not change for more than a certain fixed time, the frequency is adjusted according to the ΔD value.
When the ΔD value is low, the frequency is lowered.
When the ΔD value is high, the frequency is increased.

3. Frequency management when other controls are functioning

- When frequency is dropping;
  Frequency management is carried out only when the frequency drops.
- For limiting lower limit
  Frequency management is carried out only when the frequency rises.

4. Upper and lower limit of frequency by PI control

The frequency upper and lower limits are set according to the command of the indoor unit.
When the indoor or outdoor unit quiet operation command comes from the indoor unit, the upper limit frequency is lower than the usual setting.

3.3 Controls at Mode Changing / Start-up

3.3.1 Preheating Control

Outline

The inverter operation in open phase starts with the conditions of the preheating command from the indoor unit, the outdoor temperature, and the discharge pipe temperature.

Detail

■ **RK(X)S25/35E2V1B, RK(X)S25/35G2V1B**

ON Condition

- When the discharge pipe temperature is below 10°C, the inverter operation in open phase starts.

OFF Condition

- When the discharge pipe temperature is higher than 12°C, the inverter operation in open phase stops.

■ **RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B**

Outdoor temperature ≥ **A**°C → Control I
Outdoor temperature < **A**°C → Control II

Control I

- ON condition
  Discharge pipe temperature < **B**°C
- OFF condition
  Discharge pipe temperature > **C**°C
  Radiation fin temperature ≥ 90°C

Control II

- ON condition
  Discharge pipe temperature < **D**°C
- OFF condition
  Discharge pipe temperature > **E**°C
  Radiation fin temperature ≥ 90°C

	A (°C)	**B** (°C)	**C** (°C)	**D** (°C)	**E** (°C)
RK(X)S25/35G2V1B9 RXS25/35J2V1B	7	10	12	20	22
RXS25K3V1B RXS35K2V1B	–2.5	0	2	10	12

3.3.2 Four Way Valve Switching

Outline

In heating operation, current is conducted, and in cooling operation and defrost control, current is not conducted. In order to eliminate the switching sound as the four way valve coil switches from ON to OFF when the heating is stopped, the OFF delay switch of the four way valve is carried out.

Detail

OFF delay switch of four way valve:
The four way valve coil is energized for 160 seconds after the operation is stopped.

3.3.3 Four Way Valve Operation Compensation

Outline

At the beginning of the operation as the four way valve is switched, the pressure difference to activate the four way valve is acquired by having output frequency which is more than a certain fixed frequency, for a certain fixed time.

Detail

Starting Conditions

1. When the compressor starts and the four way valve switches from OFF to ON
2. When the four way valve switches from ON to OFF during operation
3. When the compressor starts after resetting
4. When the compressor starts after the fault of four way valve switching

The lower limit of frequency keeps **A** Hz for **B** seconds with any conditions 1 through 4 above.

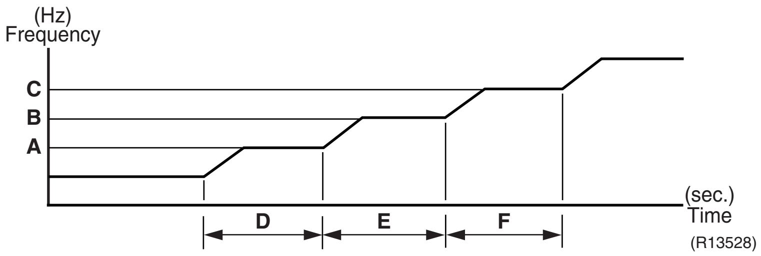
	Cooling	Heating
A (Hz)	68	66
B (seconds)	45	

3.3.4 3-minute Standby

Turning on the compressor is prohibited for 3 minutes after turning it off.
(Except when defrosting.)

3.3.5 Compressor Protection Function

When turning the compressor from OFF to ON, the upper limit of frequency is set as follows.
(The function is not activated when defrosting.)



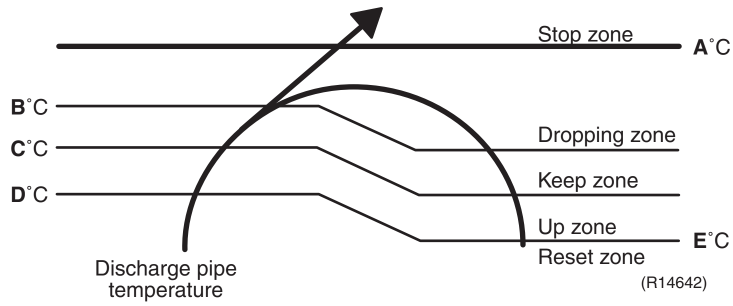
A (Hz)	48
B (Hz)	64
C (Hz)	88
D (seconds)	240
E (seconds)	360
F (seconds)	180

3.4 Discharge Pipe Temperature Control

Outline

The discharge pipe temperature is used as the internal temperature of the compressor. If the discharge pipe temperature rises above a certain level, the upper limit of frequency is set to keep the discharge pipe temperature from rising further.

Detail



Zone	Control
Stop zone	When the temperature reaches the stop zone, the compressor stops.
Dropping zone	The upper limit of frequency decreases.
Keep zone	The upper limit of frequency is kept.
Up zone	The upper limit of frequency increases.
Reset zone	The upper limit of frequency is canceled.

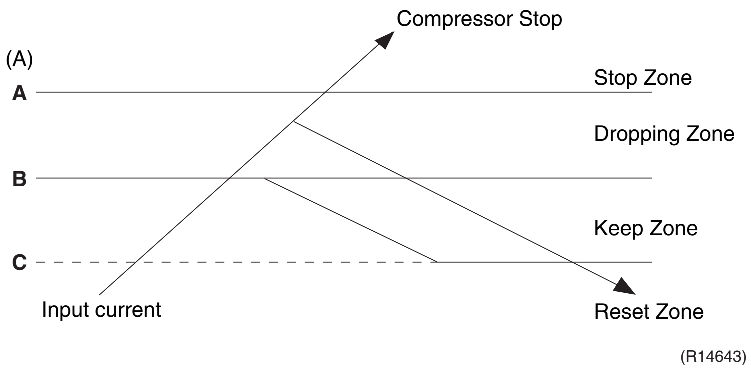
A (ºC)	110
B (ºC)	105
C (ºC)	101
D (ºC)	99
E (ºC)	97

3.5 Input Current Control

Outline

The microcomputer calculates the input current while the compressor is running, and sets the frequency upper limit from the input current.
In case of heat pump models, this control which is the upper limit control of the frequency takes priority over the lower limit of control of four way valve operation compensation.

Detail



Frequency control in each zone
Stop zone
- After 2.5 seconds in this zone, the compressor is stopped.

Dropping zone
- The upper limit of the compressor frequency is defined as operation frequency – 2 Hz.
- After this, the output frequency is lowered by 2 Hz every second until it reaches the keep zone.

Keep zone
- The present maximum frequency goes on.

Reset zone
- Limit of the frequency is canceled.

	RK(X)S25E2V1B		RK(X)S25G2V1B		RK(X)S25G2V1B9 RXS25J2V1B	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
A (A)	9.25		9.25		9.25	
B (A)	6.0	7.5	6.5	7.5	6.25	7.5
C (A)	5.25	6.75	5.75	6.75	5.5	6.75

	RXS25K3V1B		RK(X)S35E2V1B RK(X)S35G2V1B		RK(X)S35G2V1B9 RXS35J2V1B RXS35K2V1B	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
A (A)	9.25		9.25		9.25	
B (A)	7.5		7.25	8.25	8.25	
C (A)	6.75		6.5	7.5	7.5	

Limitation of current dropping and stop value according to the outdoor temperature
- The current drops when outdoor temperature becomes higher than a certain level (depending on the model).

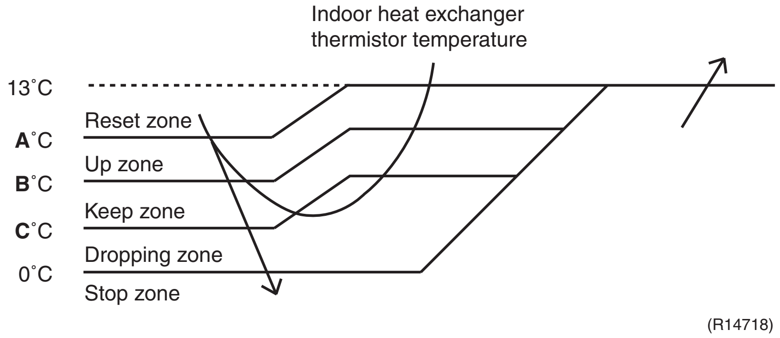
3.6 Freeze-up Protection Control

Outline

During cooling operation, the signal sent from the indoor unit controls the operating frequency limitation and prevents freezing of the indoor heat exchanger. (The signal from the indoor unit is divided into zones.)

Detail

The operating frequency limitation is judged with the indoor heat exchanger temperature.



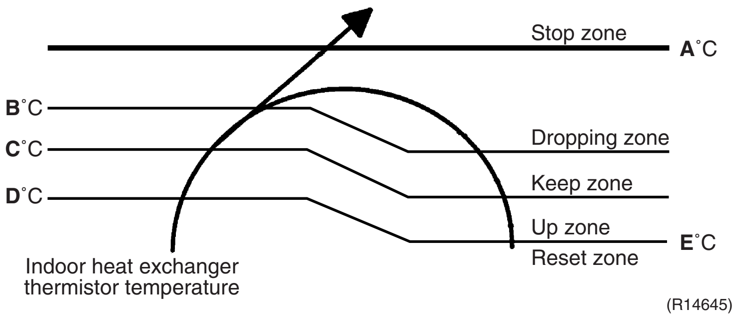
A (°C)	**B** (°C)	**C** (°C)
7	5	3

3.7 Heating Peak-cut Control

Outline

During heating operation, the indoor heat exchanger temperature determines the frequency upper limit to prevent abnormal high pressure.

Detail



Zone	Control
Stop zone	When the temperature reaches the stop zone, the compressor stops.
Dropping zone	The upper limit of frequency decreases.
Keep zone	The upper limit of frequency is kept.
Up zone	The upper limit of frequency increases.
Reset zone	The upper limit of frequency is canceled.

A (°C)	**B** (°C)	**C** (°C)	**D** (°C)	**E** (°C)
65	56	53	51	46

3.8 Outdoor Fan Control

1. Fan ON control to cool down the electrical box
The outdoor fan is turned ON when the electrical box temperature is high while the compressor is OFF.

2. Fan OFF control during defrosting
The outdoor fan is turned OFF during defrosting.

3. Fan OFF delay when stopped
The outdoor fan is turned OFF 60 seconds after the compressor stops.

4. Fan speed control for pressure difference upkeep
The rotation speed of the outdoor fan is controlled for keeping the pressure difference during cooling operation with low outdoor temperature.
- When the pressure difference is low, the rotation speed of the outdoor fan is reduced.
- When the pressure difference is high, the rotation speed of the outdoor fan is controlled as well as normal operation.

5. Fan speed control during forced cooling operation
The outdoor fan is controlled as well as normal operation during forced cooling operation.

6. Fan speed control during POWERFUL operation
The rotation speed of the outdoor fan is increased during POWERFUL operation.

7. Fan speed control during indoor / outdoor unit quiet operation
The rotation speed of the outdoor fan is reduced by the command of the indoor / outdoor unit quiet operation.

8. Fan ON/OFF control when operation starts / stops
The outdoor fan is turned ON when the operation starts. The outdoor fan is turned OFF when the operation stops.

3.9 Liquid Compression Protection Function

Outline

In order to obtain the dependability of the compressor, the compressor is stopped according to the outdoor temperature and the outdoor heat exchanger temperature.

Detail

■ Operation stops depending on the outdoor temperature.
Compressor turns off under the conditions that the system is in cooling operation and outdoor temperature is below –12°C.

3.10 Defrost Control

Outline

Defrosting is carried out by the cooling cycle (reverse cycle). The defrosting time or outdoor heat exchanger temperature must be more than a certain value to finish.

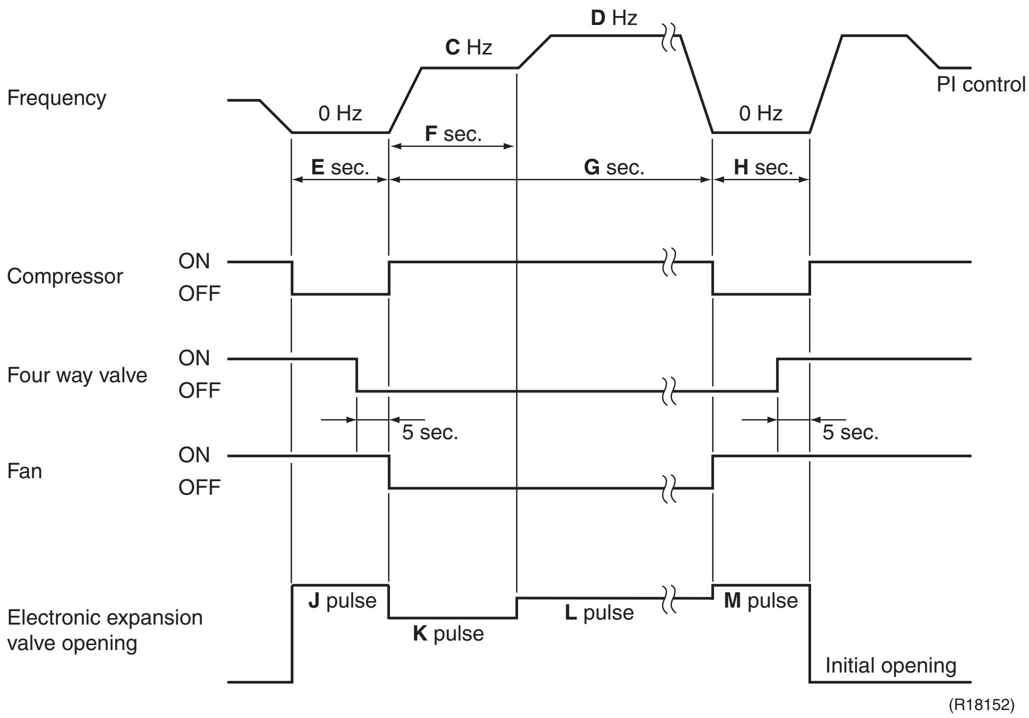
Detail

Conditions for Starting Defrost

- The starting conditions are determined with the outdoor temperature and the outdoor heat exchanger temperature.
- The system is in heating operation.
- The compressor operates for 6 minutes.
- More than **A** minutes of accumulated time pass after the start of the operation, or ending the previous defrosting.

Conditions for Canceling Defrost

The judgment is made with the outdoor heat exchanger temperature. (**B**°C)



	RXS25/35E2V1B	RXS25/35G2V1B RXS25/35G2V1B9 RXS25/35J2V1B	RXS25K3V1B	RXS35K2V1B
A (minutes)	28	28	28	28
B (°C)	4 ~ 18	4 ~ 18	4 ~ 18	4 ~ 18
C (Hz)	74	76	68	76
D (Hz)	86	86	86	86
E (seconds)	50	50	50	50
F (seconds)	60	60	60	60
G (seconds)	480	480	480	480
H (seconds)	50	60	50	60
J (pulse)	450	450	450	450
K (pulse)	350 ★	350 ★	350	200
L (pulse)	350 ★	350 ★	400	300
M (pulse)	450	450	450	450

★: The same value continues.

3.11 Electronic Expansion Valve Control

Outline

The following items are included in the electronic expansion valve control.

Electronic expansion valve is fully closed

1. Electronic expansion valve is fully closed when turning on the power.
2. Pressure equalizing control

Open Control

1. Electronic expansion valve control when starting operation
2. Electronic expansion valve control when the frequency changes
3. Electronic expansion valve control for defrosting
4. Electronic expansion valve control when the discharge pipe temperature is abnormally high
5. Electronic expansion valve control when the discharge pipe thermistor is disconnected

Feedback Control

Target discharge pipe temperature control

Detail

The followings are the examples of electronic expansion valve control which function in each operation mode.

● : Holding Functions — : No Functions	When the power turns on or when the compressor stops	When the operation starts	When the frequency changes under starting control	During target discharge pipe temperature control	When the frequency changes under target discharge pipe temperature control	When the disconnection of the discharge pipe thermistor is ascertained	When the frequency changes under the control for disconnection of the discharge pipe thermistor	Under defrost control
Cooling								
Starting control	–	●	–	–	–	–	–	–
Control when the frequency changes	–	–	●	–	●	–	–	–
Target discharge pipe temperature control	–	–	–	●	–	–	–	–
Control for disconnection of the discharge pipe thermistor	–	–	–	–	–	●	●	–
High discharge pipe temperature control	–	●	●	●	●	–	–	–
Pressure equalizing control	●	–	–	–	–	–	–	–
Opening limit control	–	●	●	●	●	●	●	–
Heating								
Starting control	–	●	–	–	–	–	–	–
Control when the frequency changes	–	–	●	–	●	–	–	–
Target discharge pipe temperature control	–	–	–	●	–	–	–	–
Control for disconnection of the discharge pipe thermistor	–	–	–	–	–	●	●	–
High discharge pipe temperature control	–	●	●	●	●	–	–	–
Defrost control	–	–	–	–	–	–	–	●
Pressure equalizing control	●	–	–	–	–	–	–	–
Opening limit control	–	●	●	●	●	●	●	–

3.11.1 Fully Closing with Power ON

The electronic expansion valve is initialized when turning on the power. The opening position is set and the pressure equalization is developed.

3.11.2 Pressure Equalizing Control

When the compressor is stopped, the pressure equalizing control is activated. The electronic expansion valve opens, and develops the pressure equalization.

3.11.3 Opening Limit Control

Outline

A maximum and minimum opening of the electronic expansion valve are limited.

Detail

Maximum opening (pulse)	480
Minimum opening (pulse)	52

The electronic expansion valve is fully closed when cooling operation stops, and is opened at a fixed degree during defrosting.

3.11.4 Starting Operation Control

The electronic expansion valve opening is controlled when the operation starts, and prevents superheating or liquid compression.

3.11.5 Control when the Frequency Changes

When the target discharge pipe temperature control is active, if the target frequency is changed to a specified value in a certain time period, the target discharge pipe temperature control is canceled and the target opening of the electronic expansion valve is changed according to the shift.

3.11.6 High Discharge Pipe Temperature Control

When the compressor is operating, if the discharge pipe temperature exceeds a certain value, the electronic expansion valve opens and the refrigerant runs to the low pressure side. This procedure lowers the discharge pipe temperature.

3.11.7 Control for Disconnection of the Discharge Pipe Thermistor

Outline

The disconnection of the discharge pipe thermistor is detected by comparing the discharge pipe temperature with the condensation temperature. If the discharge pipe thermistor is disconnected, the electronic expansion valve opens according to the outdoor temperature and the operation frequency, operates for a specified time, and then stops.
After 3 minutes, the operation restarts and checks if the discharge pipe thermistor is disconnected. If the discharge pipe thermistor is disconnected, the system stops after operating for a specified time.
If the disconnection is detected repeatedly, the system is shut down. When the compressor runs for 60 minutes without any error, the error counter is reset.

Detail

When the starting control (cooling: **A** seconds, heating: **B** seconds) finishes, the detection timer for disconnection of the discharge pipe thermistor (**C** seconds) starts. When the timer is over, the following adjustment is made.

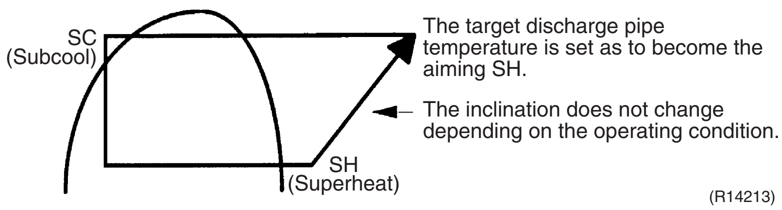
1. When the operation mode is cooling
   When the following condition is fulfilled, the discharge pipe thermistor disconnection is ascertained.
   Discharge pipe temperature + 6°C < outdoor heat exchanger temperature
2. When the operation mode is heating
   When the following condition is fulfilled, the discharge pipe thermistor disconnection is ascertained.
   Discharge pipe temperature + 6°C < indoor heat exchanger temperature

A (seconds)	10
B (seconds)	120
C (seconds)	810

Adjustment when the thermistor is disconnected
When the disconnection is ascertained, the compressor continues operation for 9 minutes and then stops.
If the compressor stops repeatedly, the system is shut down.

3.11.8 Target Discharge Pipe Temperature Control

The target discharge pipe temperature is obtained from the indoor and outdoor heat exchanger temperature, and the electronic expansion valve opening is adjusted so that the actual discharge pipe temperature becomes close to the target discharge pipe temperature. (Indirect SH (superheating) control using the discharge pipe temperature)



The electronic expansion valve opening and the target discharge pipe temperature are adjusted every 20 seconds. The target discharge pipe temperature is controlled by indoor heat exchanger temperature and outdoor heat exchanger temperature. The opening degree of the electronic expansion valve is controlled by the followings.

- Target discharge pipe temperature
- Actual discharge pipe temperature
- Previous discharge pipe temperature

3.12 Malfunctions

3.12.1 Sensor Malfunction Detection

Sensor malfunction may occur in the thermistor.

Relating to Thermistor Malfunction

1. Outdoor heat exchanger thermistor
2. Discharge pipe thermistor
3. Radiation fin thermistor
4. Outdoor temperature thermistor

3.12.2 Detection of Overcurrent and Overload

Outline

An excessive output current is detected and the OL temperature is observed to protect the compressor.

Detail

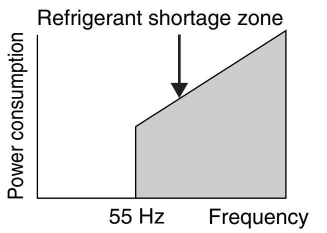
- If the OL (compressor head) temperature exceeds 120°C, the system shuts down the compressor.
- If the inverter current exceeds 9.25 A, the system shuts down the compressor.

3.12.3 Refrigerant Shortage Control

Outline

I: Detecting by power consumption

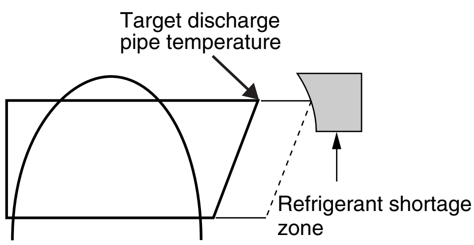
If the power consumption is below the specified value and the frequency is higher than the specified frequency, it is regarded as refrigerant shortage.
The power consumption is low comparing with that in the normal operation when refrigerant is insufficient, and refrigerant shortage is detected by checking power consumption.



(R11384)

II: Detecting by discharge pipe temperature

If the discharge pipe temperature is higher than the target discharge pipe temperature, and the electronic expansion valve is fully open for more than the specified time, it is regarded as refrigerant shortage.



(R1391)

III: Detecting by the difference of temperature

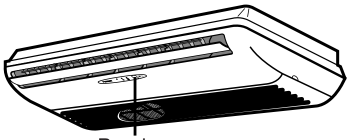
If the difference between suction and discharge temperature is smaller than the specified value, it is regarded as refrigerant shortage.

Refer to page 65 for detail.

Part 5
Remote Controller

1. FLK(X)S25/35BAVMB

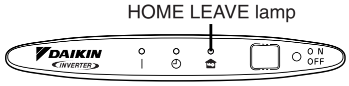
Signal transmitter



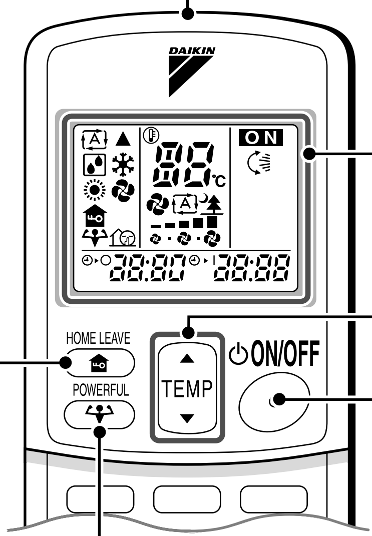
- To use the remote controller, aim the transmitter at the indoor unit. If there is anything to block signals between the unit and the remote controller, such as a curtain, the unit will not operate.
- The maximum distance for communication is approx. 7m.

HOME LEAVE★1 button

- Press this button to start HOME LEAVE operation.
  The HOME LEAVE lamp lights up.



- Press the button again to cancel HOME LEAVE operation.



Display (LCD)

- Displays the current settings.
  (In this illustration, each section is shown with all its displays on for the purpose of explanation.)

TEMPERATURE adjustment buttons

- Changes the temperature setting.

: AUTO	18 ~ 30 °C
: DRY	Not available
: COOL	18 ~ 32 °C
: HEAT	10 ~ 30 °C
: FAN	Not available

ON/OFF button

- Press this button once to start operation.
  Press once again to stop it.

POWERFUL★2 button

- POWERFUL operation

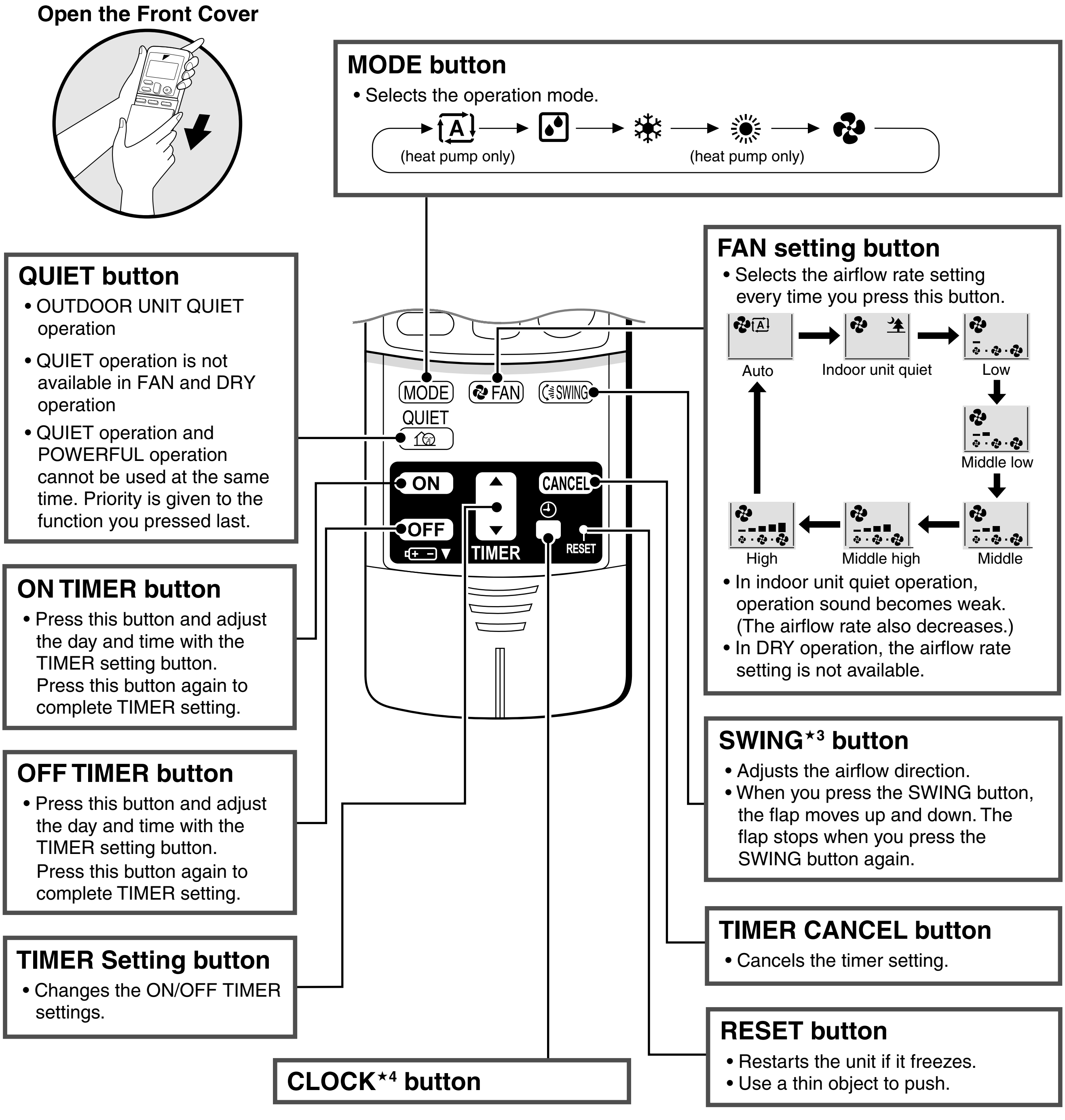
(R17827)

HEAT PUMP model	ARC433B67
COOLING ONLY model	ARC433B68

Reference Refer to the following pages for detail.

★1	HOME LEAVE operation	P.32
★2	POWERFUL operation	P.33

Note: Refer to the operation manual of applicable model for detail. You can download operation manuals from ‘DISTRIBUTOR’S PAGE’:
DISTRIBUTOR’S PAGE → Product Information → Operation/Installation Manual
(URL: http://global.daikin.com/Daikin/global/Distributors_admin/user_mng/login.php)



(R18357)

Reference Refer to the following pages for detail.

★3	Auto swing setting	P.27
★4	Clock setting	P.34

Note: Refer to the operation manual of applicable model for detail. You can download operation manuals from ‘DISTRIBUTOR’S PAGE’:
DISTRIBUTOR’S PAGE → Product Information → Operation/Installation Manual
(URL: http://global.daikin.com/Daikin/global/Distributors_admin/user_mng/login.php)

Part 6
Service Diagnosis

1. Troubleshooting with LED

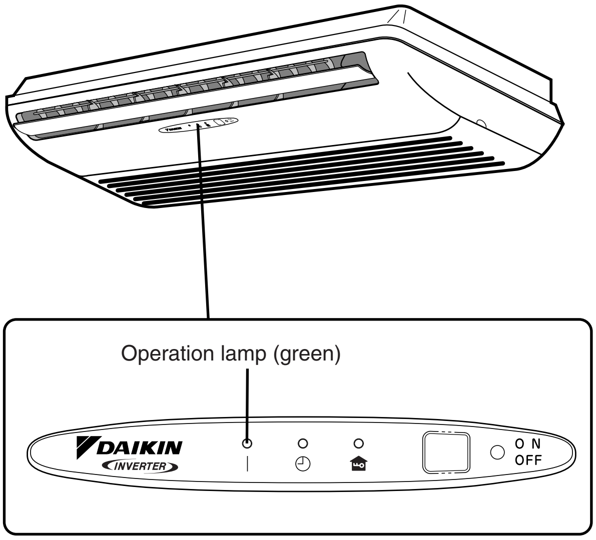
1.1 Indoor Unit

Operation Lamp

The operation lamp blinks when any of the following errors is detected.

1. When a protection device of the indoor or outdoor unit is activated, or when the thermistor malfunctions.
2. When a signal transmission error occurs between the indoor and outdoor units.

In either case, conduct the diagnostic procedure described in the following pages.



(R2974)

Service Monitor

The indoor unit has one green LED (LED A) on the control PCB. When the microcomputer works in order, the LED A blinks.

1.2 Outdoor Unit

The outdoor unit has one green LED (LED A) on the PCB. When the microcomputer works in order, the LED A blinks.

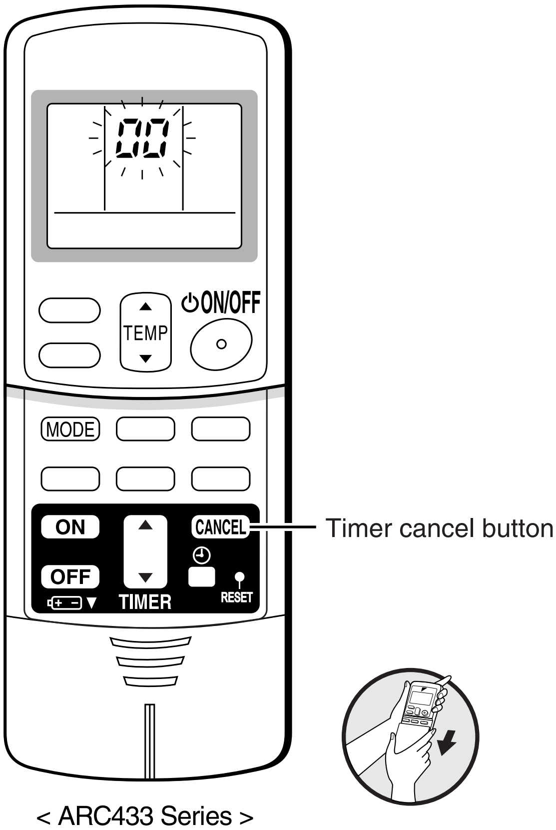
2. Problem Symptoms and Measures

Symptom	Check Item	Details of Measure	Reference Page
The unit does not operate.	Check the power supply.	Check if the rated voltage is supplied.	—
	Check the type of the indoor unit.	Check if the indoor unit type is compatible with the outdoor unit.	—
	Check the outdoor temperature.	Heating operation cannot be used when the outdoor temperature is 18°CWB or higher, and cooling operation cannot be used when the outdoor temperature is below –10°CDB.	—
	Diagnose with remote controller indication.	—	60
	Check the remote controller addresses.	Check if address settings for the remote controller and indoor unit are correct.	112
Operation sometimes stops.	Check the power supply.	A power failure of 2 to 10 cycles stops air conditioner operation. (Operation lamp OFF)	—
	Check the outdoor temperature.	Heating operation cannot be used when the outdoor temperature is 18°CWB or higher, and cooling operation cannot be used when the outdoor temperature is below –10°CDB.	—
	Diagnose with remote controller indication.	—	60
The unit operates but does not cool, or does not heat.	Check for wiring and piping errors in the connection between the indoor unit and outdoor unit.	—	—
	Check for thermistor detection errors.	Check if the thermistor is mounted securely.	—
	Check for faulty operation of the electronic expansion valve.	Set the unit to cooling operation, and check the liquid pipe temperature to see if the electronic expansion valve works.	—
	Diagnose with remote controller indication.	—	60
	Diagnose by service port pressure and operating current.	Check for refrigerant shortage.	65
Large operating noise and vibrations	Check the output voltage of the power module.	—	106
	Check the power module.	—	—
	Check the installation condition.	Check if the required spaces for installation (specified in the installation manual) are provided.	—

3. Service Check Function

Check Method 1

1. When the timer cancel button is held down for 5 seconds, 00 is displayed on the temperature display screen.



< ARC433 Series >

(R18206)

2. Press the timer cancel button repeatedly until a long beep sounds.

■ The code indication changes in the sequence shown below.

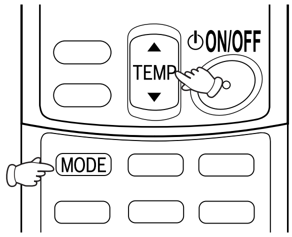
No.	Code	No.	Code	No.	Code
1	00	12	C7	23	H0
2	U4	13	H8	24	E1
3	F3	14	J3	25	P4
4	E6	15	A3	26	L3
5	L5	16	A1	27	L4
6	A6	17	C4	28	H6
7	E5	18	C5	29	H7
8	F6	19	H9	30	U2
9	C9	20	J6	31	UH
10	U0	21	UA	32	EA
11	E7	22	A5	33	AH

Note:

1. A short beep or two consecutive beeps indicate non-corresponding codes.
2. To return to the normal mode, hold the timer cancel button down for 5 seconds. When the remote controller is left untouched for 60 seconds, it also returns to the normal mode.
3. Not all the error codes are displayed. When you cannot find the error code, try the check method 2. (→ Refer to page 58.)

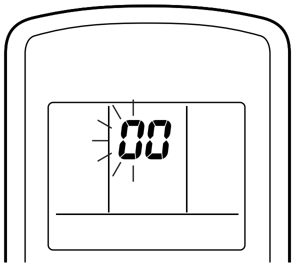
Check Method 2

1. Press the center of the [TEMP] button and the [MODE] button at the same time to enter the diagnosis mode.



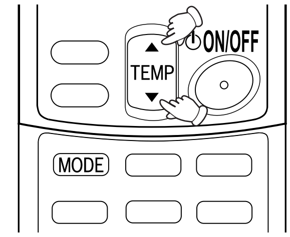
(R4272)

The left-side number blinks.



(R14967)

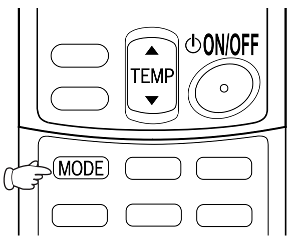
2. Press the [TEMP] ▲ or ▼ button and change the number until you hear the two consecutive beeps or the long beep.



(R4274)

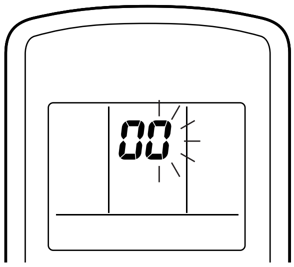
3. Diagnose by the sound.
   ★beep : The left-side number does not correspond with the error code.
   ★two consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   ★long beep : Both the left-side and right-side numbers correspond with the error code. The numbers indicated when you hear the long beep are the error code. Error codes and description → Refer to page 60.

4. Press the [MODE] button.



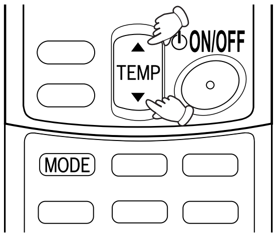
(R4275)

The right-side number blinks.



(R14968)

5. Press the [TEMP] ▲ or ▼ button and change the number until you hear the long beep.

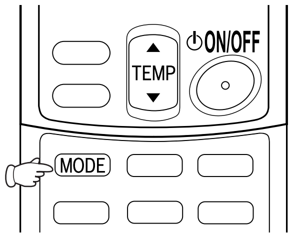


(R4277)

6. Diagnose by the sound.
   ★beep : The left-side number does not correspond with the error code.
   ★two consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   ★long beep : Both the left-side and right-side numbers correspond with the error code.

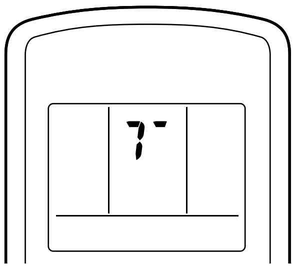
7. Determine the error code.
   The numbers indicated when you hear the long beep are the error code.
   Error codes and description → Refer to page 60.

8. Press the [MODE] button to exit from the diagnosis mode.

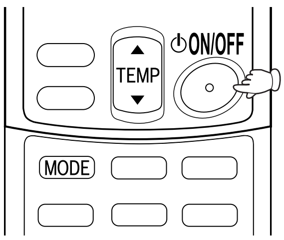


(R4278)

   The display 7- means the trial operation mode.
   Refer to page 111 for trial operation.


(R14969)

9. Press the [ON/OFF] button twice to return to the normal mode.



(R9670)

Note: When the remote controller is left untouched for 60 seconds, it returns to the normal mode.

4. Troubleshooting

4.1 Error Codes and Description

	Error Codes	Description	Reference Page
System	00	Normal	—
	U0★	Refrigerant shortage	65
	U2	Low-voltage detection or over-voltage detection	67
	U4	Signal transmission error (between indoor unit and outdoor unit)	69
	UA	Unspecified voltage (between indoor unit and outdoor unit)	71
Indoor Unit	A1	Indoor unit PCB abnormality	61
	A5	Freeze-up protection control or heating peak-cut control	62
	A6	Fan motor (AC motor) or related abnormality	63
	C4	Indoor heat exchanger thermistor or related abnormality	64
	C9	Room temperature thermistor or related abnormality	64
Outdoor Unit	E1	Outdoor unit PCB abnormality	72
	E5★	OL activation (compressor overload)	73
	E6★	Compressor lock	75
	E7★	DC fan lock	76
	E8	Input overcurrent detection	77
	EA	Four way valve abnormality	78
	F3	Discharge pipe temperature control	80
	F6	High pressure control in cooling	81
	H0	Compressor system sensor abnormality	82
	H6	Position sensor abnormality	83
	H8	DC voltage / current sensor abnormality	85
	H9	Outdoor temperature thermistor or related abnormality	86
	J3★	Discharge pipe thermistor or related abnormality	86
	J6	Outdoor heat exchanger thermistor or related abnormality	86
	L3	Electrical box temperature rise	88
	L4	Radiation fin temperature rise	91
	L5★	Output overcurrent detection	94
	P4	Radiation fin thermistor or related abnormality	86

★: Displayed only when system-down occurs.

4.2 Indoor Unit PCB Abnormality

Error Code A1

Method of Error Detection The system checks if the circuit works properly within the microcomputer of the indoor unit.

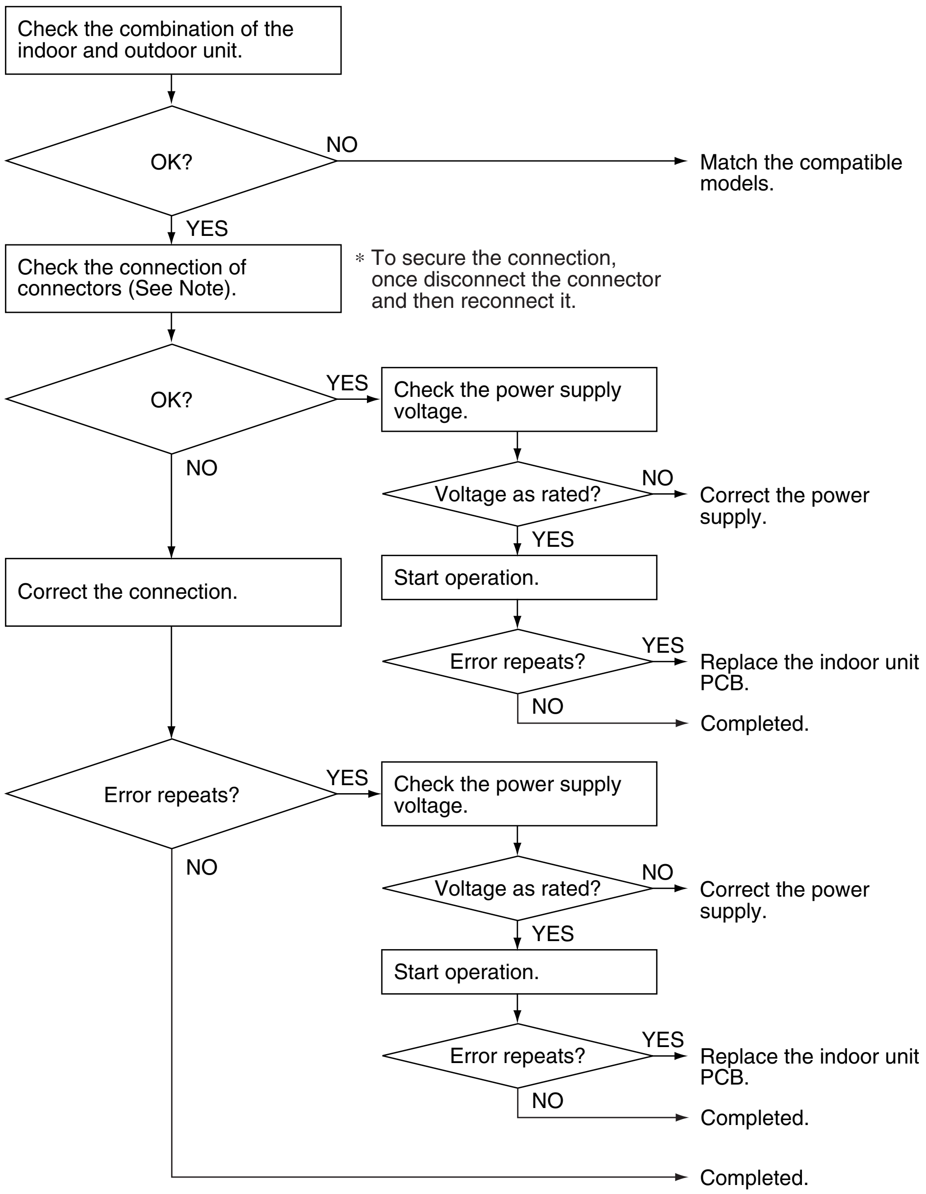
Error Decision Conditions The system cannot set the internal settings.

Supposed Causes

- Wrong models interconnected
- Defective indoor unit PCB
- Disconnection of connector
- Reduction of power supply voltage

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15310)

Note: Check the following connector.

Model Type	Connector
Floor / ceiling suspended dual type	S36 ~ S37

4.3 Freeze-up Protection Control or Heating Peak-cut Control

Error Code

A5

Method of Error Detection

- Freeze-up protection control
  During cooling operation, the freeze-up protection control (operation halt) is activated according to the temperature detected by the indoor heat exchanger thermistor.
- Heating peak-cut control
  During heating operation, the temperature detected by the indoor heat exchanger thermistor is used for the heating peak-cut control (operation halt, outdoor fan stop, etc.)

Error Decision Conditions

- Freeze-up protection control
  During cooling operation, the indoor heat exchanger temperature is below 0°C.
- Heating peak-cut control
  During heating operation, the indoor heat exchanger temperature is above 65°C

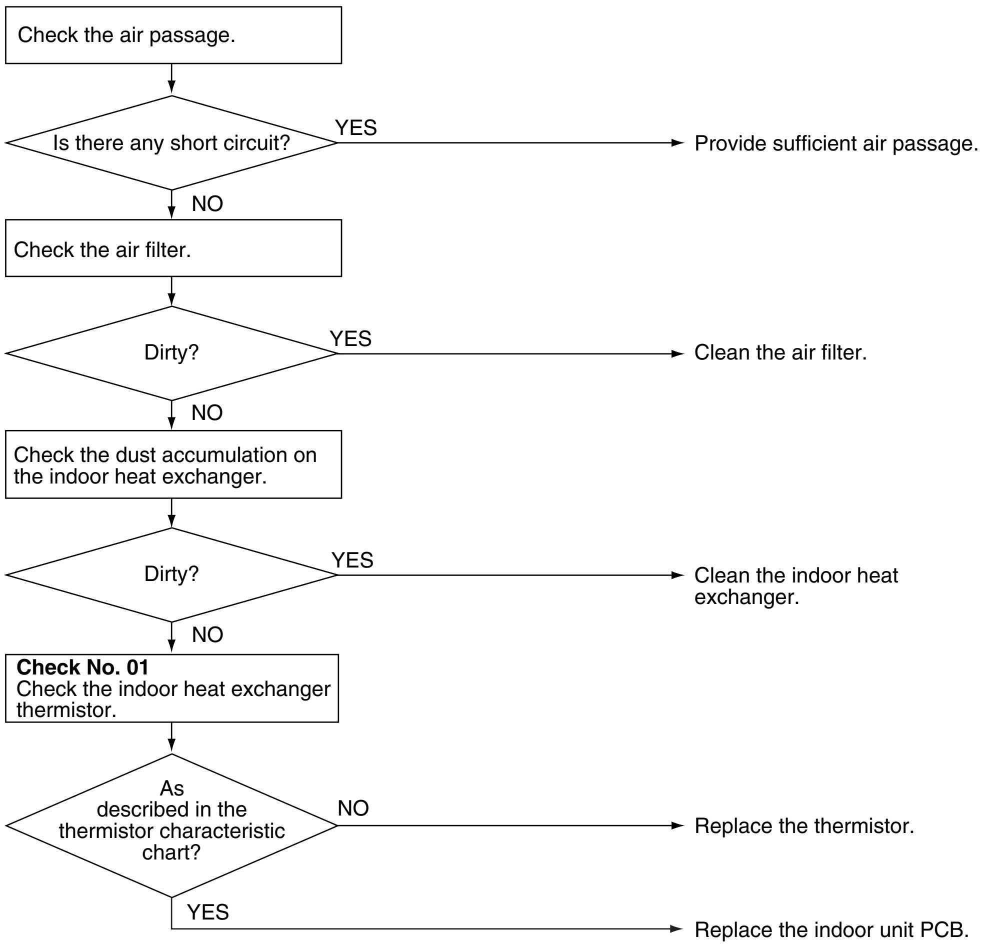
Supposed Causes

- Short-circuited air
- Clogged air filter of the indoor unit
- Dust accumulation on the indoor heat exchanger
- Defective indoor heat exchanger thermistor
- Defective indoor unit PCB

Troubleshooting

Check No.01
Refer to P.96

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15715)

4.4 Fan Motor (AC Motor) or Related Abnormality

Error Code

A6

Method of Error Detection

The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor operation.

Error Decision Conditions

The detected rotation speed does not reach the demanded rotation speed of the target tap, and is less than 50% of the maximum fan motor rotation speed.

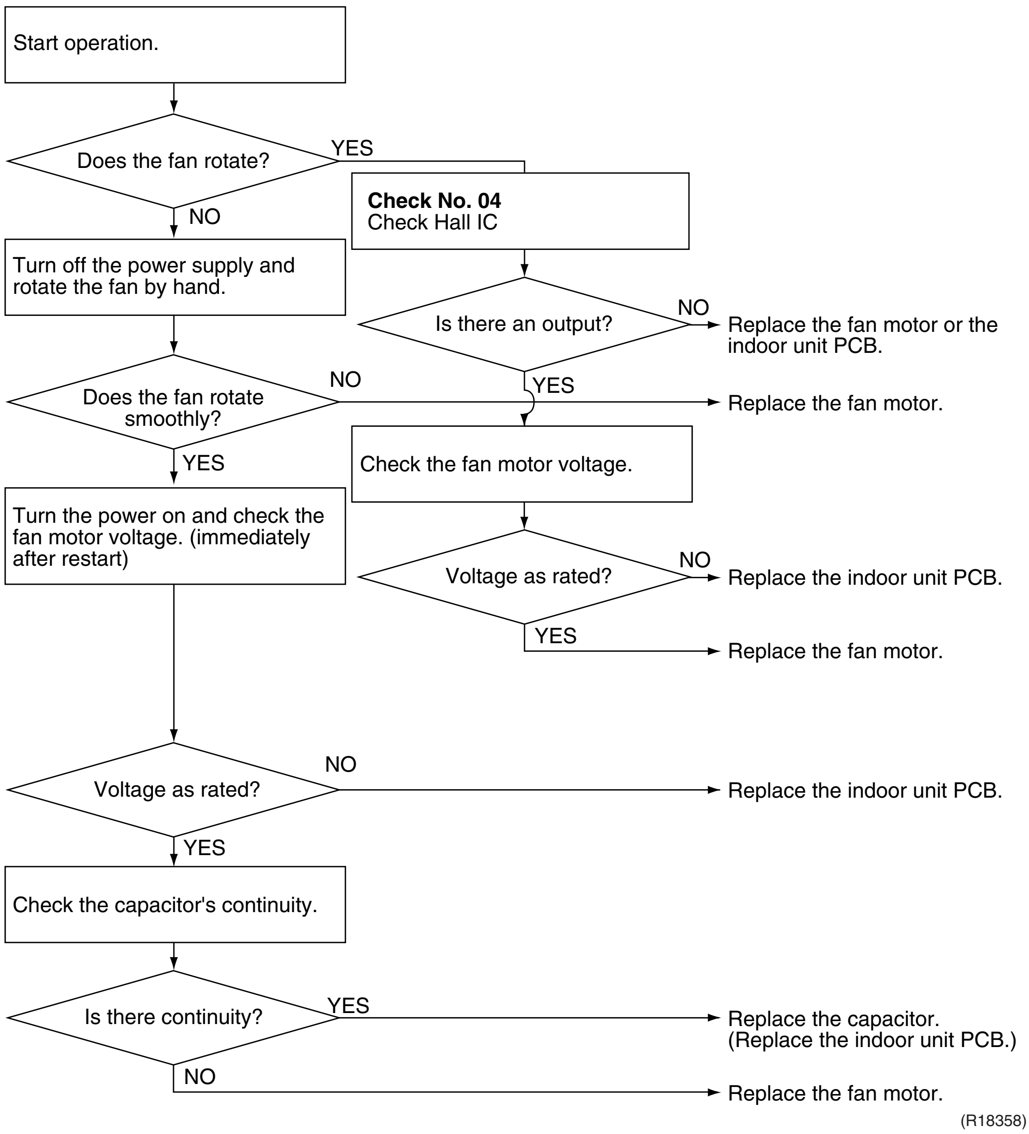
Supposed Causes

- Layer short inside the fan motor winding
- Breaking of wire inside the fan motor
- Breaking of the fan motor lead wires
- Defective capacitor of the fan motor
- Defective indoor unit PCB

Troubleshooting

Check No.04
Refer to P.97

⚠ **Caution** Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



4.5 Thermistor or Related Abnormality (Indoor Unit)

Error Code

C4, C9

Method of Error Detection

The temperatures detected by the thermistors determine thermistor errors.

Error Decision Conditions

The thermistor input is more than 4.96 V or less than 0.04 V during compressor operation.

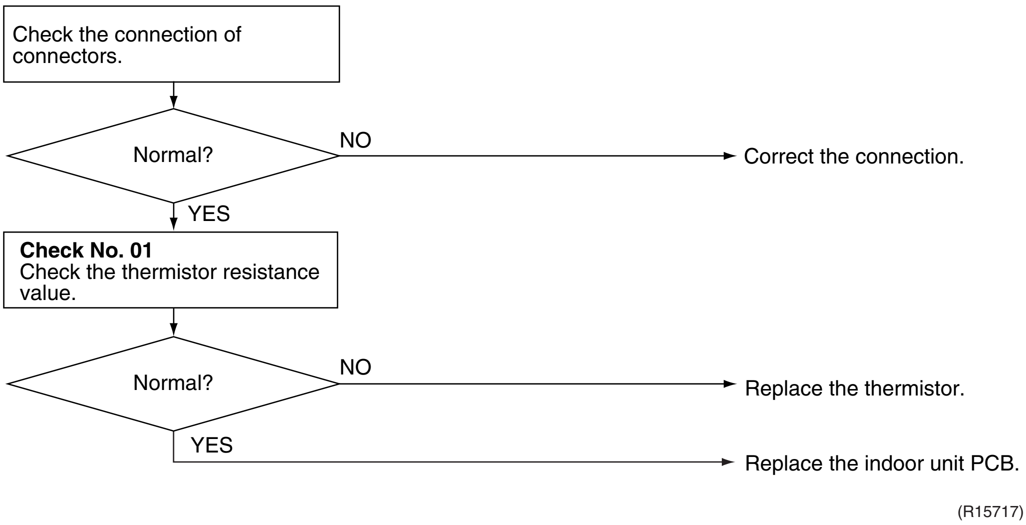
Supposed Causes

- Disconnection of connector
- Defective thermistor
- Defective indoor unit PCB

Troubleshooting

Check No.01
Refer to P.96

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



C4 : Indoor heat exchanger thermistor
C9 : Room temperature thermistor

4.6 Refrigerant Shortage

Error Code

U0

Method of Error Detection

Refrigerant shortage detection I:
Refrigerant shortage is detected by checking the input current value and the compressor running frequency. If the refrigerant is short, the input current is lower than the normal value.

Refrigerant shortage detection II:
Refrigerant shortage is detected by checking the discharge pipe temperature and the opening of the electronic expansion valve. If the refrigerant is short, the discharge pipe temperature tends to rise.

Refrigerant shortage detection III:
Refrigerant shortage is detected by checking the difference between suction and discharge temperature.

Error Decision Conditions

Refrigerant shortage detection I:
The following conditions continue for 7 minutes.

- Input current × input voltage ≤ **A** × output frequency + **B**
- Output frequency > **C**

A (–)	**B** (W)	**C** (Hz)
640/256	0	55

Refrigerant shortage detection II:
The following conditions continue for 80 seconds.
- Opening of the electronic expansion valve ≥ **D**
- Discharge pipe temperature > **E** × target discharge pipe temperature + **F**

	D (pulse)	**E** (–)	**F** (°C)
RK(X)S25/35E2V1B	480	255/256	30
RK(X)S25/35G2V1B RK(X)S25/35G2V1B9 RXS25/35J2V1B RXS25K3V1B RXS35K2V1B	480	128/128	30

Refrigerant shortage detection III:
When the difference of the temperature is smaller than **G**°C, it is regarded as refrigerant shortage.

Operation mode	Description	**G** (°C)
Cooling	room thermistor temperature – indoor heat exchanger temperature	4.0
	outdoor heat exchanger temperature – outdoor temperature	4.0
Heating	indoor heat exchanger temperature – room thermistor temperature	3.0
	outdoor temperature – outdoor heat exchanger temperature	3.0

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

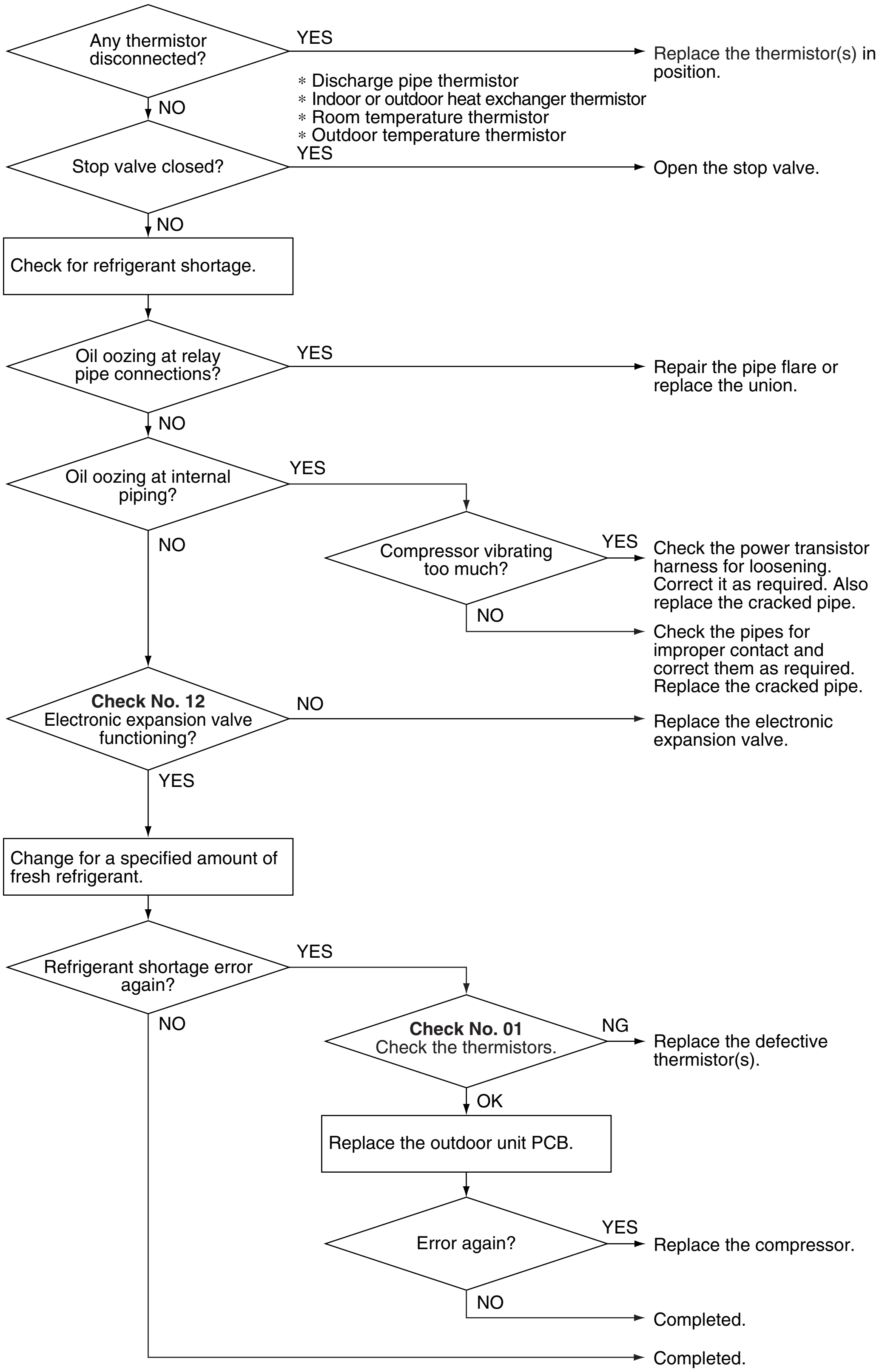
- Disconnection of the discharge pipe thermistor, indoor or outdoor heat exchanger thermistor, room or outdoor temperature thermistor
- Closed stop valve
- Refrigerant shortage (refrigerant leakage)
- Poor compression performance of compressor
- Defective electronic expansion valve

Troubleshooting

Check No.01
Refer to P.96

Check No.12
Refer to P.98

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R16015)

4.7 Low-voltage Detection or Over-voltage Detection

Error Code

U2

Method of Error Detection

Low-voltage detection:
An abnormal voltage drop is detected by the DC voltage detection circuit.

Over-voltage detection:
An abnormal voltage rise is detected by the over-voltage detection circuit.

Error Decision Conditions

Low-voltage detection:
- The voltage detected by the DC voltage detection circuit is below 180 V.
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

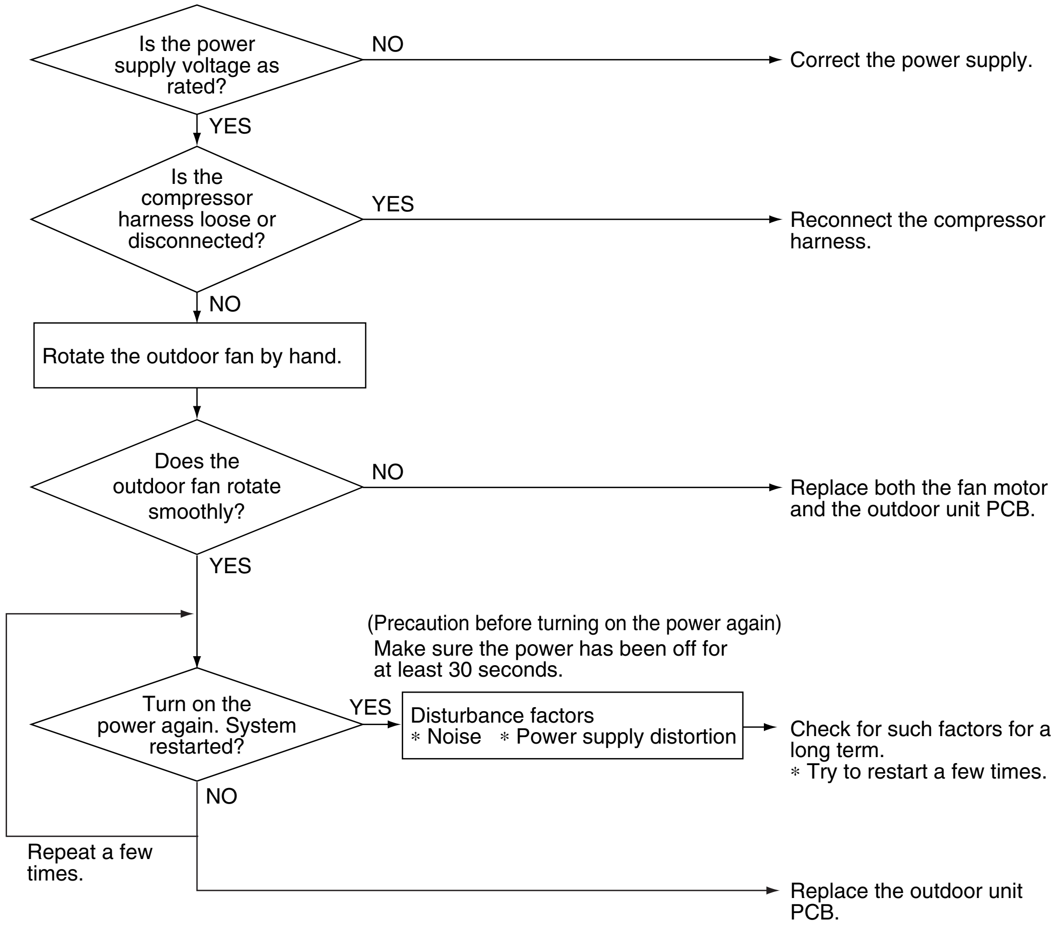
Over-voltage detection:
- An over-voltage signal is fed from the over-voltage detection circuit to the microcomputer.
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

Supposed Causes

- Power supply voltage is not as specified.
- Defective DC voltage detection circuit
- Defective over-voltage detection circuit
- Defective PAM control part
- Disconnection of compressor harness
- Short circuit inside the fan motor winding
- Noise
- Momentary fall of voltage
- Momentary power failure

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R17948)

4.8 Signal Transmission Error (between Indoor Unit and Outdoor Unit)

Error Code	U4
Method of Error Detection	The data received from the outdoor unit in signal transmission is checked whether it is normal.
Error Decision Conditions	The data sent from the outdoor unit cannot be received normally, or the content of the data is abnormal.

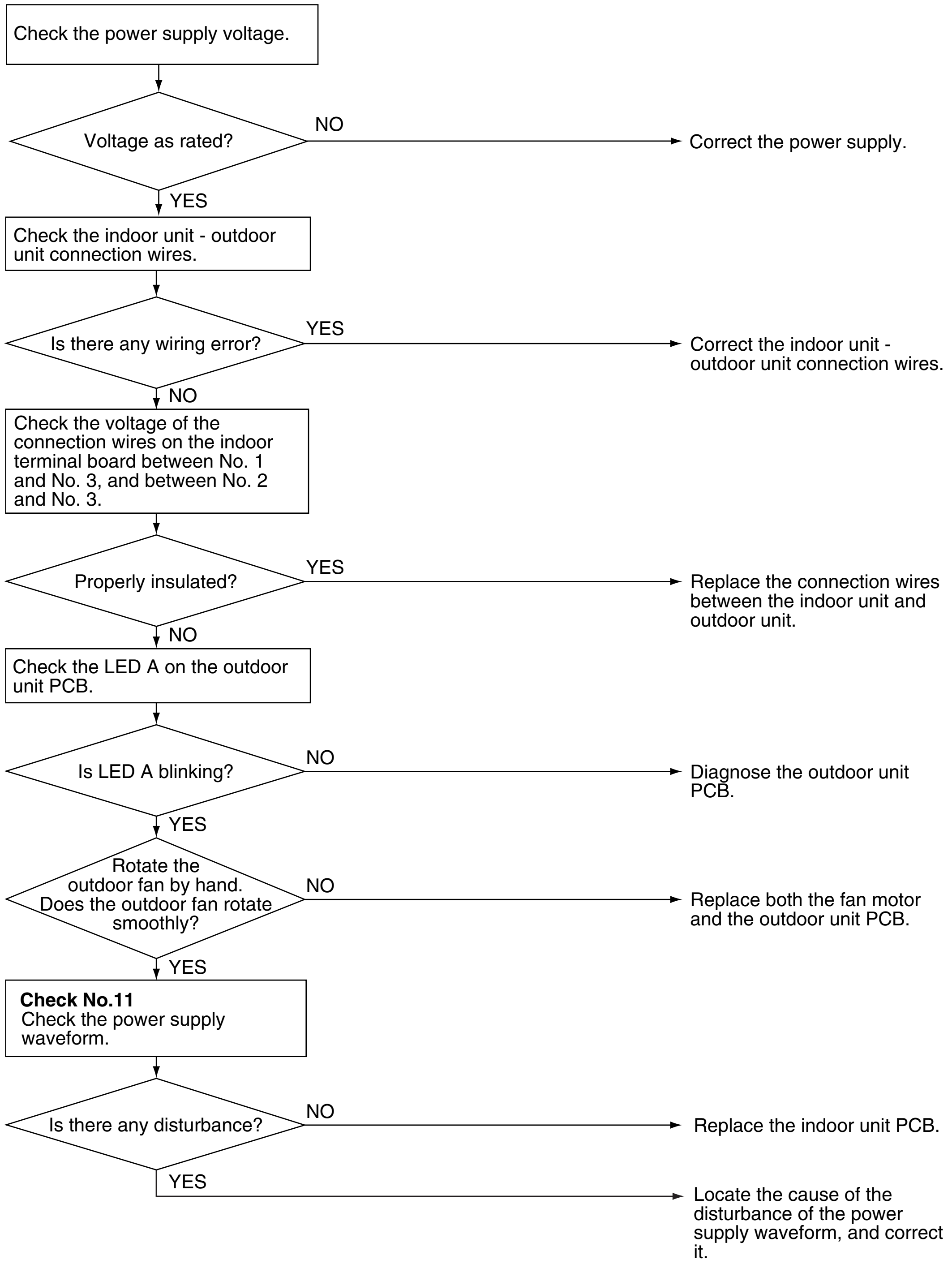
Supposed Causes

- Reduction of power supply voltage
- Wiring error
- Breaking of the connection wires between the indoor and outdoor units (wire No. 3)
- Defective outdoor unit PCB
- Short circuit inside the fan motor winding
- Defective indoor unit PCB
- Disturbed power supply waveform

Troubleshooting

Check No.11
Refer to P.97

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R18283)

4.9 Unspecified Voltage (between Indoor Unit and Outdoor Unit)

Error Code

UA

Method of Error Detection

The supply power is detected for its requirements (different from pair type and multi type) by the indoor / outdoor transmission signal.

Error Decision Conditions

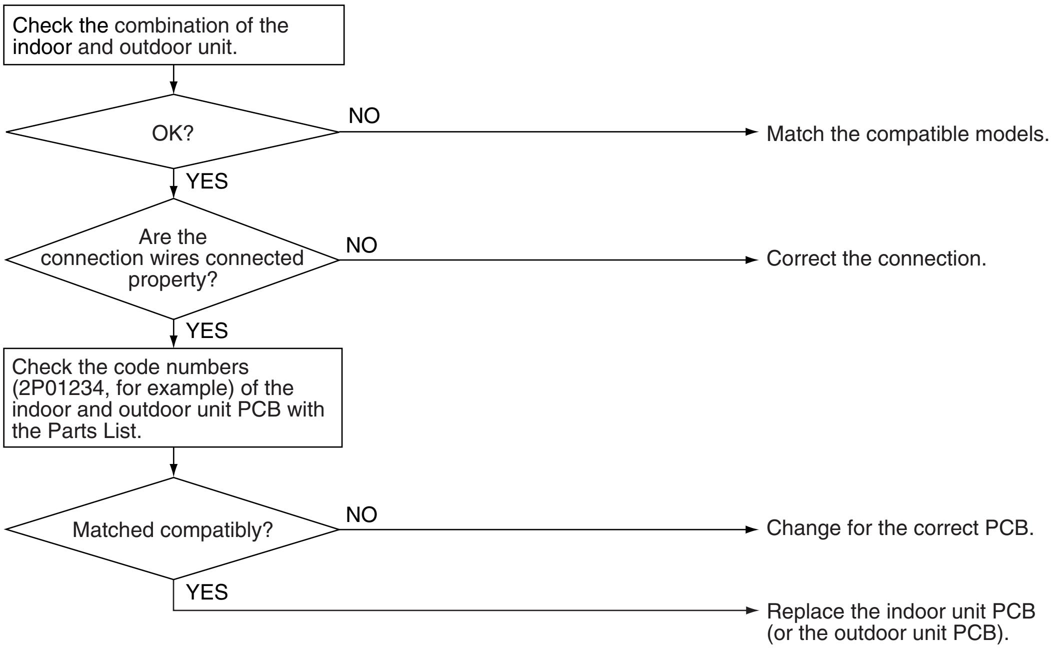
The pair type and multi type are interconnected.

Supposed Causes

- Wrong models interconnected
- Wrong wiring of connecting wires
- Wrong indoor unit PCB or outdoor unit PCB mounted
- Defective indoor unit PCB
- Defective outdoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R11707)

4.10 Outdoor Unit PCB Abnormality

Error Code E1

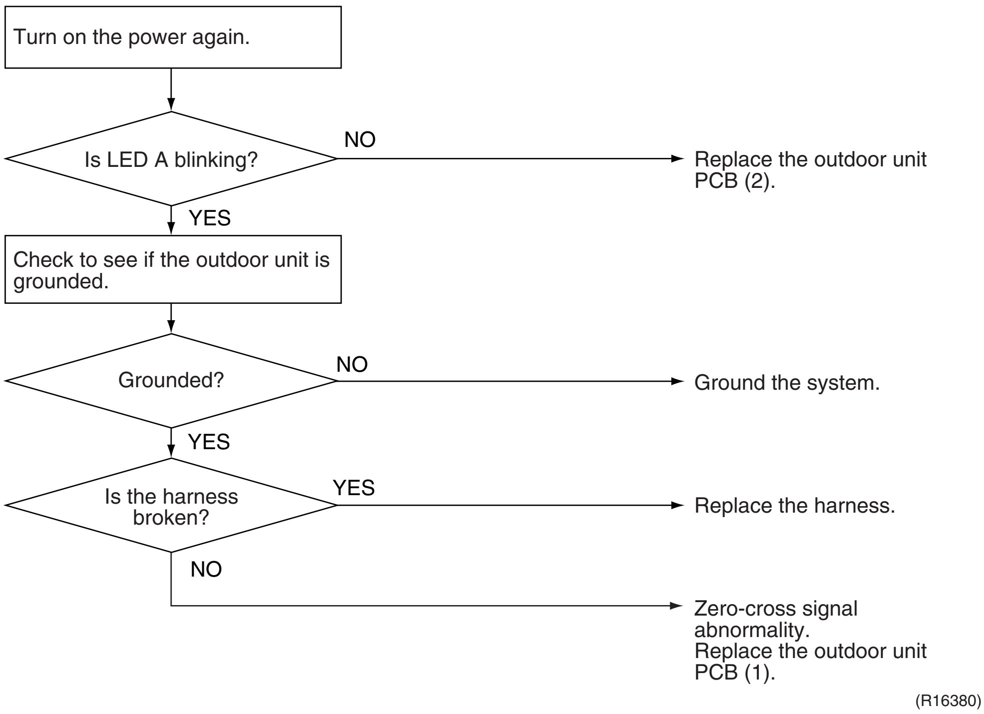
Method of Error Detection
- The system checks if the microprocessor is working in order.
- The system checks if the zero-cross signal comes in properly.

Error Decision Conditions
- The microprocessor program runs out of control.
- The zero-cross signal is not detected.

Supposed Causes
- Defective outdoor unit PCB
- Broken harness between PCBs
- Noise
- Momentary fall of voltage
- Momentary power failure

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



4.11 OL Activation (Compressor Overload)

Error Code

E5

Method of Error Detection

A compressor overload is detected through compressor OL.

Error Decision Conditions

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

- Disconnection of discharge pipe thermistor
- Defective discharge pipe thermistor
- Disconnection of connector [S40]
- Disconnection of 2 terminals of OL (Q1L)
- Defective OL (Q1L)
- Broken OL harness
- Defective electronic expansion valve or coil
- Defective four way valve or coil
- Defective outdoor unit PCB
- Refrigerant shortage
- Water mixed in refrigerant
- Defective stop valve

Troubleshooting

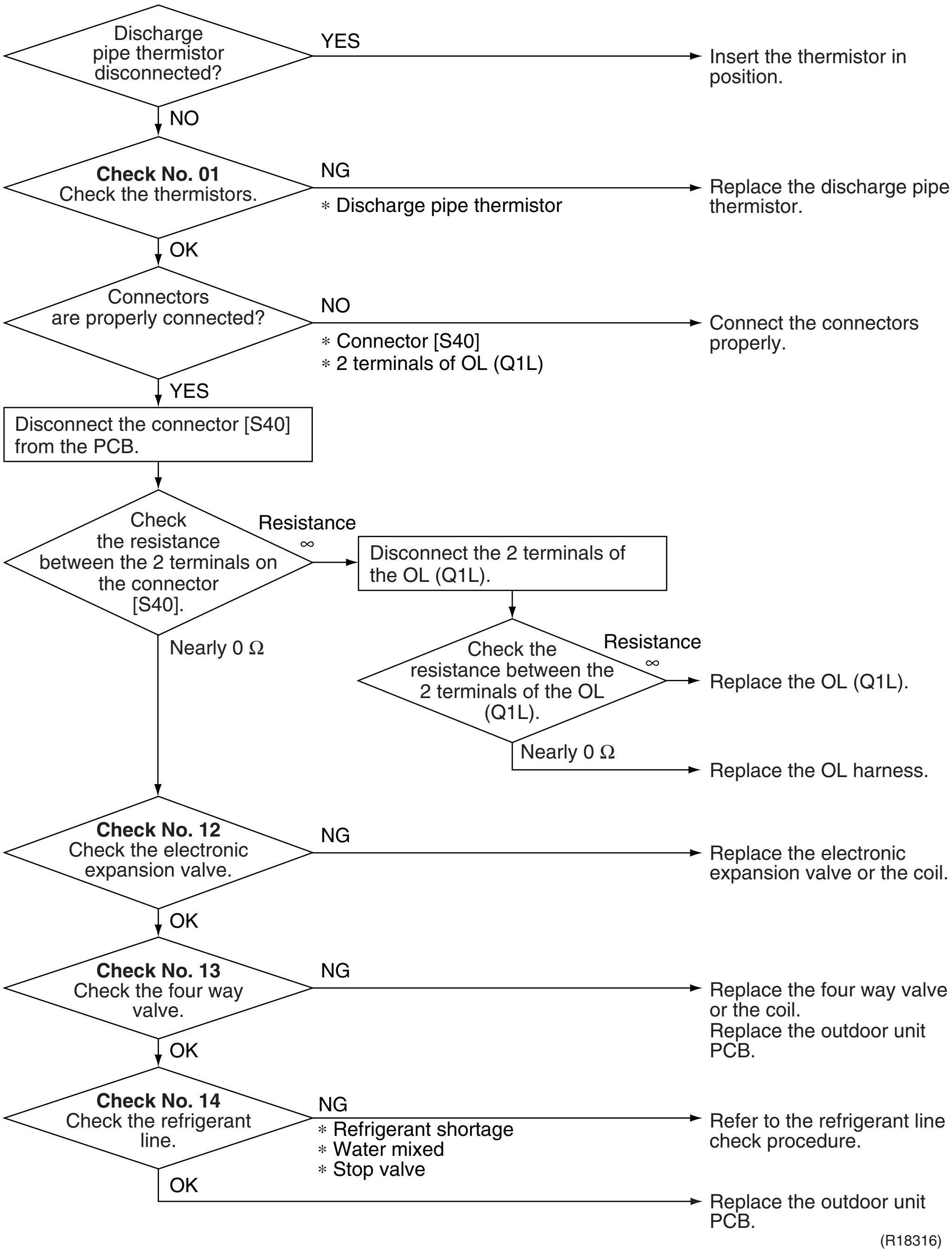
Check No.01
Refer to P.96

Check No.12
Refer to P.98

Check No.13
Refer to P.99

Check No.14
Refer to P.99

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



Note: OL (Q1L) activating temperature: 120°C
OL (Q1L) recovery temperature: 95°C

4.12 Compressor Lock

Error Code

E6

Method of Error Detection

A compressor lock is detected by checking the compressor running condition through the position detection circuit.

Error Decision Conditions

- Operation stops due to overcurrent.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

Supposed Causes

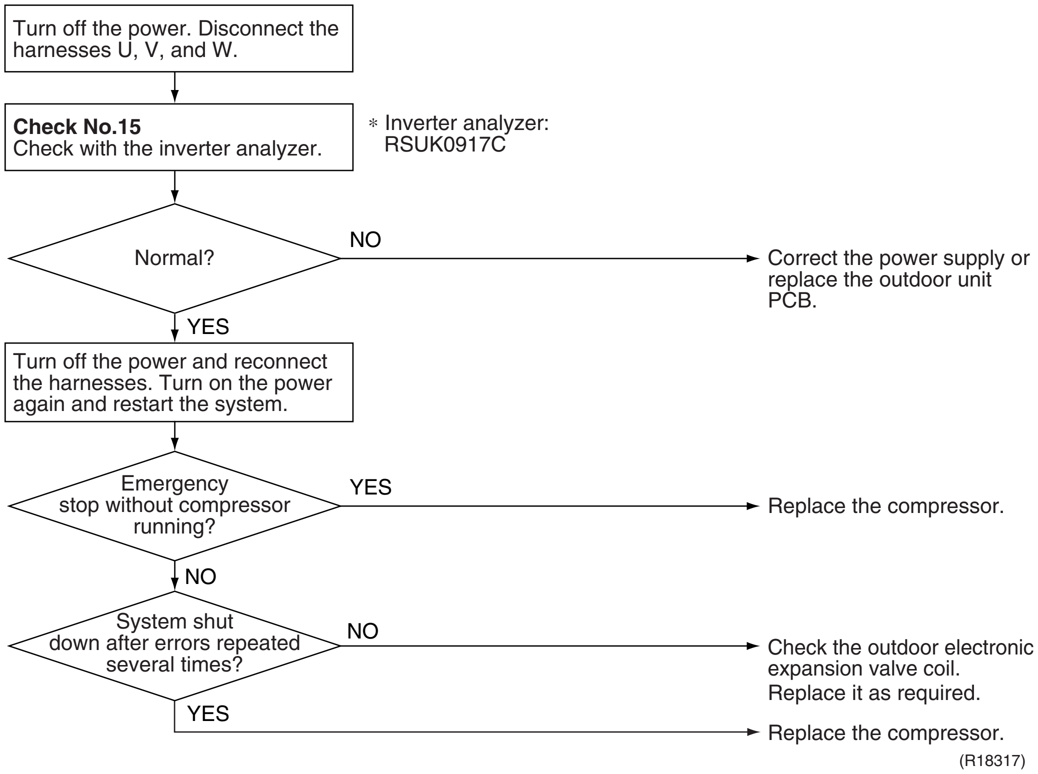
- Compressor locked
- Compressor harness disconnected

Troubleshooting

Check No.15
Refer to P.100

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

(Precaution before turning on the power again)
Make sure the power has been off for at least 30 seconds.



4.13 DC Fan Lock

Error Code

E7

Method of Error Detection

An error is determined with the high-voltage fan motor rotation speed detected by the Hall IC.

Error Decision Conditions

- The fan does not start in about 15 ~ 60 seconds even when the fan motor is running.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

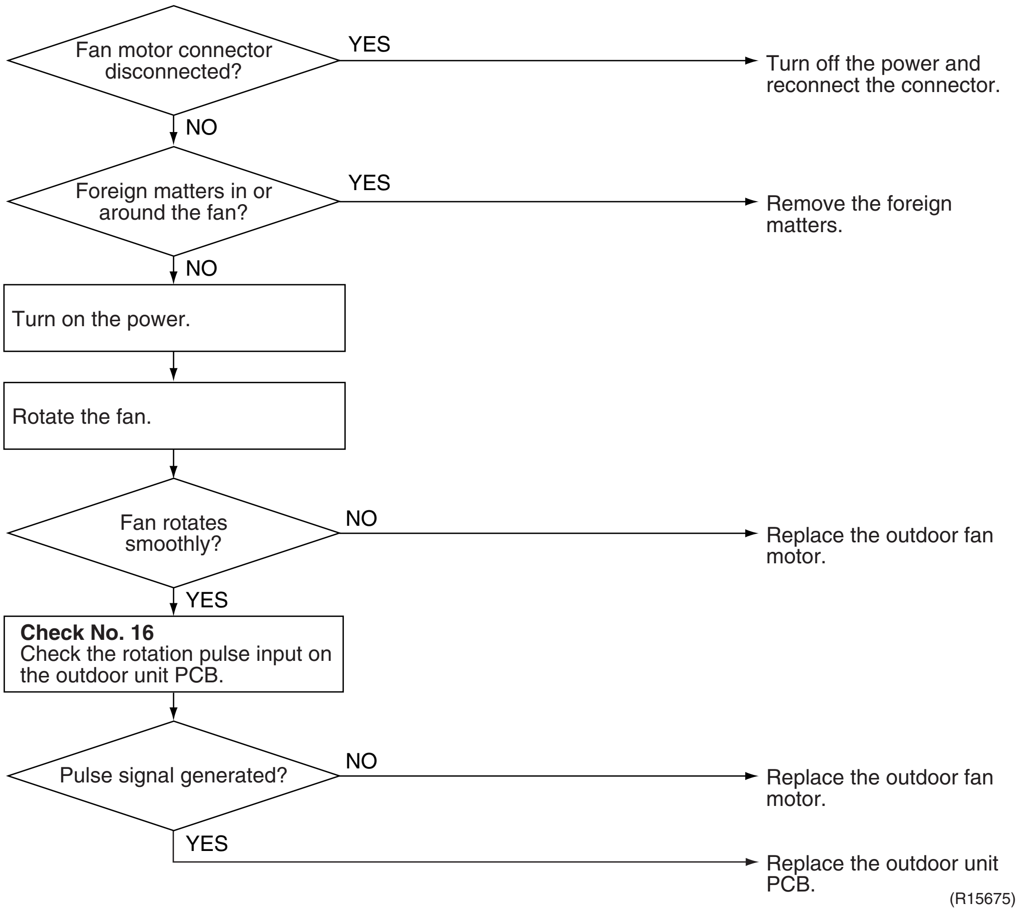
Supposed Causes

- Disconnection of the fan motor
- Foreign matter stuck in the fan
- Defective fan motor
- Defective outdoor unit PCB

Troubleshooting

Check No.16
Refer to P.101

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



4.14 Input Overcurrent Detection

Error Code

E8

Method of Error Detection

An input overcurrent is detected by checking the input current value with the compressor running.

Error Decision Conditions

- The current exceeds about 9.25 A for 2.5 seconds with the compressor running.
  (The upper limit of the current decreases when the outdoor temperature exceeds a certain level.)

Supposed Causes

- Outdoor temperature is out of operation range.
- Defective compressor
- Defective power module
- Defective outdoor unit PCB
- Short circuit

Troubleshooting

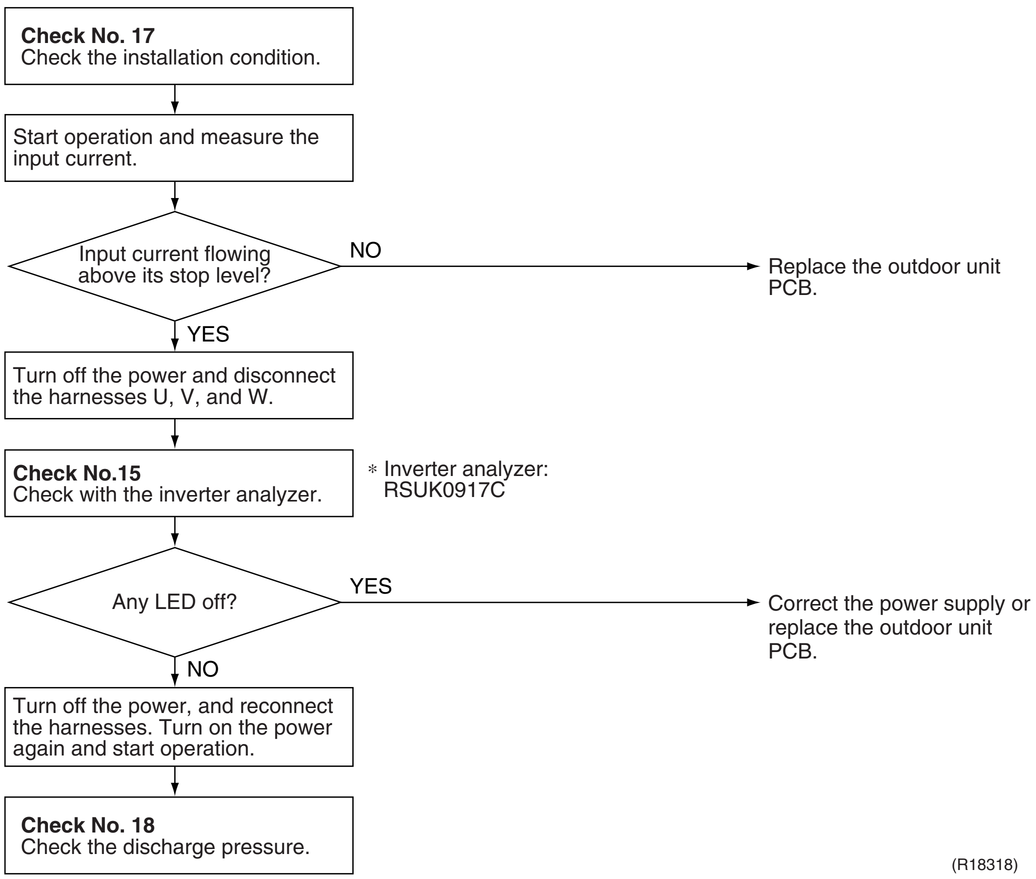
Check No.15
Refer to P.100

Check No.17
Refer to P.103

Check No.18
Refer to P.103

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

* An input overcurrent may result from wrong internal wiring. If the system is interrupted by an input overcurrent after the wires have been disconnected and reconnected for part replacement, check the wiring again.



4.15 Four Way Valve Abnormality

Error Code

EA

Method of Error Detection

The room temperature thermistor and the indoor heat exchanger thermistor are checked if they function within their normal ranges in each operation mode.

Error Decision Conditions

A following condition continues over 10 minutes after operating for 5 minutes.

- Cooling / Dry
  (room thermistor temp. – indoor heat exchanger temp.) < –5°C
- Heating
  (indoor heat exchanger temp. – room thermistor temp.) < –5°C

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

- Disconnection of four way valve coil
- Defective four way valve, coil, or harness
- Defective outdoor unit PCB
- Defective thermistor
- Refrigerant shortage
- Water mixed in refrigerant
- Defective stop valve

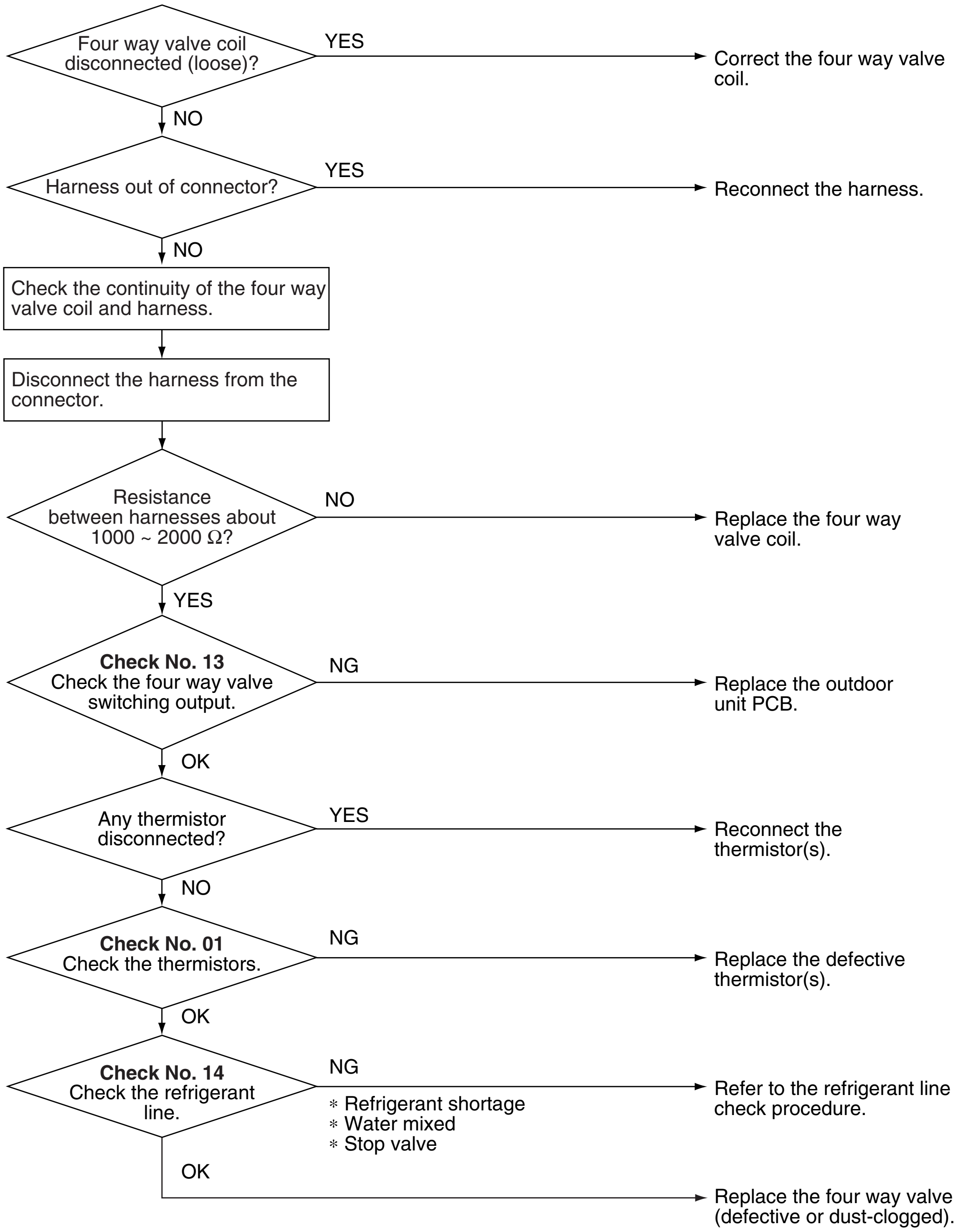
Troubleshooting

Check No.01
Refer to P.96

Check No.13
Refer to P.99

Check No.14
Refer to P.99

⚠ **Caution** Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15824)

4.16 Discharge Pipe Temperature Control

Error Code

F3

Method of Error Detection

An error is determined with the temperature detected by the discharge pipe thermistor.

Error Decision Conditions

- If the temperature detected by the discharge pipe thermistor rises above **A**°C, the compressor stops.
- The error is cleared when the discharge pipe temperature has dropped below **B**°C.

	A (°C)	**B** (°C)
(1) above 45 Hz (rising), above 40 Hz (dropping)	110	97
(2) 30 ~ 45 Hz (rising), 25 ~ 40 Hz (dropping)	105	92
(3) below 30 Hz (rising), below 25 Hz (dropping)	99	86

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

- Defective discharge pipe thermistor
  (Defective outdoor heat exchanger thermistor or outdoor temperature thermistor)
- Defective electronic expansion valve or coil
- Refrigerant shortage
- Defective four way valve
- Water mixed in refrigerant
- Defective stop valve
- Defective outdoor unit PCB

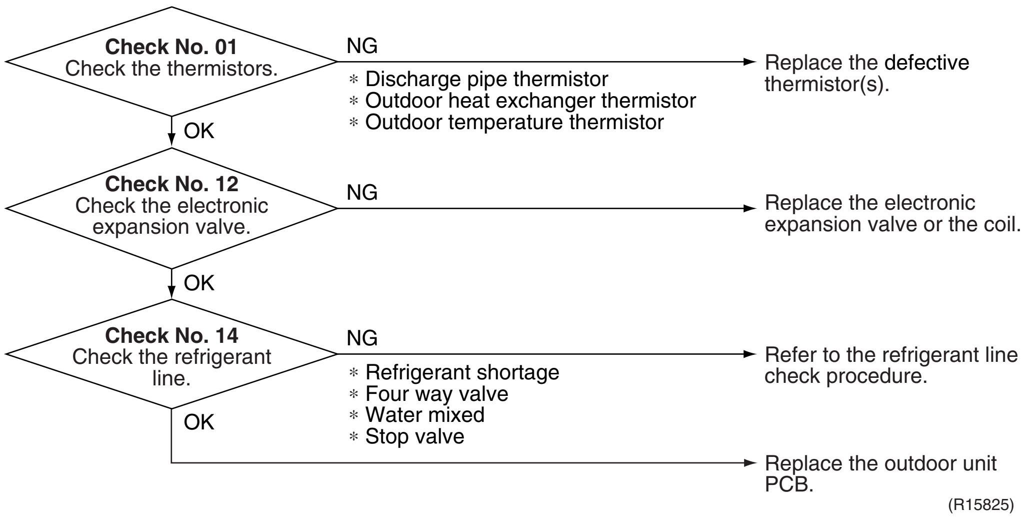
Troubleshooting

Check No.01
Refer to P.96

Check No.12
Refer to P.98

Check No.14
Refer to P.99

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



4.17 High Pressure Control in Cooling

Error Code

F6

Method of Error Detection

High-pressure control (operation halt, frequency drop, etc.) is activated in cooling operation if the temperature sensed by the outdoor heat exchanger thermistor exceeds the limit.

Error Decision Conditions

- The temperature sensed by the outdoor heat exchanger thermistor rises above about 65°C.
- The error is cleared when the temperature drops below about 50 ~ 55°C.

Supposed Causes

- The installation space is not large enough.
- Dirty outdoor heat exchanger
- Defective outdoor fan motor
- Defective stop valve
- Defective electronic expansion valve or coil
- Defective outdoor heat exchanger thermistor
- Defective outdoor unit PCB

Troubleshooting

Check No.01
Refer to P.96

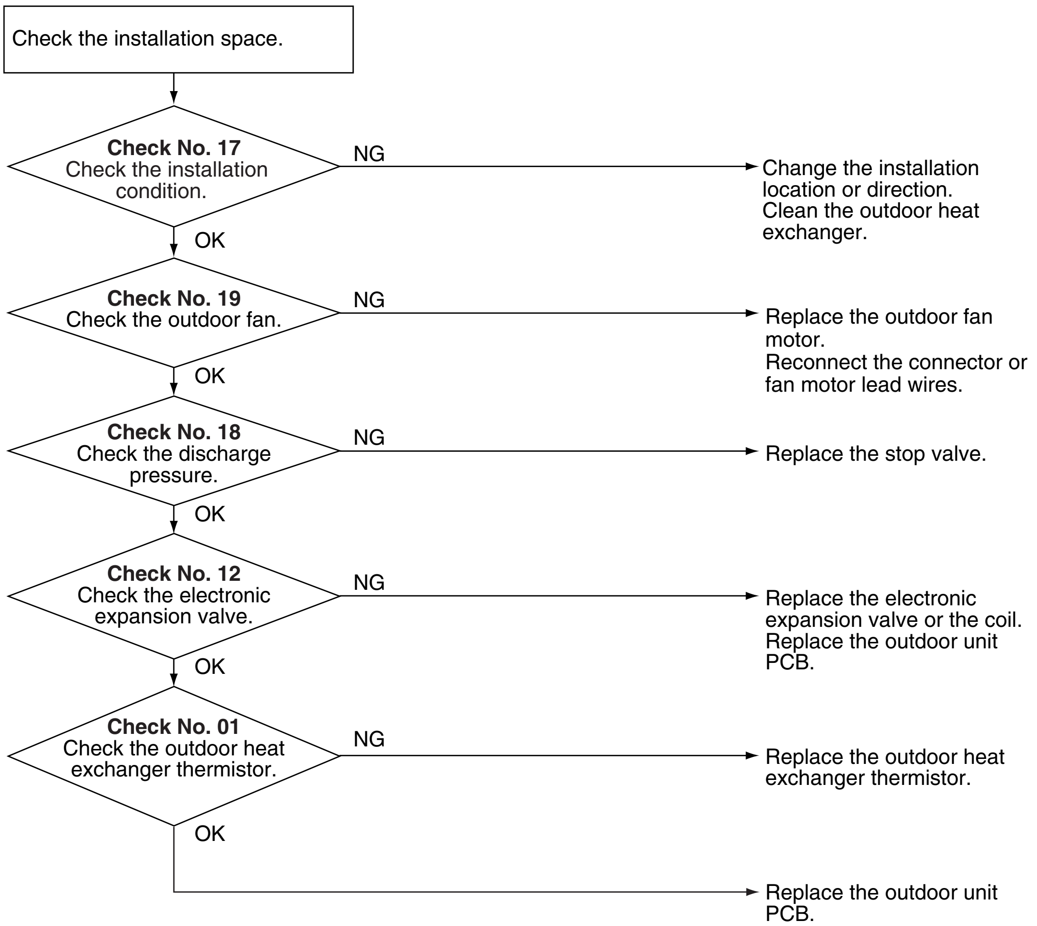
Check No.12
Refer to P.98

Check No.17
Refer to P.103

Check No.18
Refer to P.103

Check No.19
Refer to P.104

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15667)

4.18 Compressor System Sensor Abnormality

Error Code

H0

Method of Error Detection

- The system checks the DC current before the compressor starts.

Error Decision Conditions

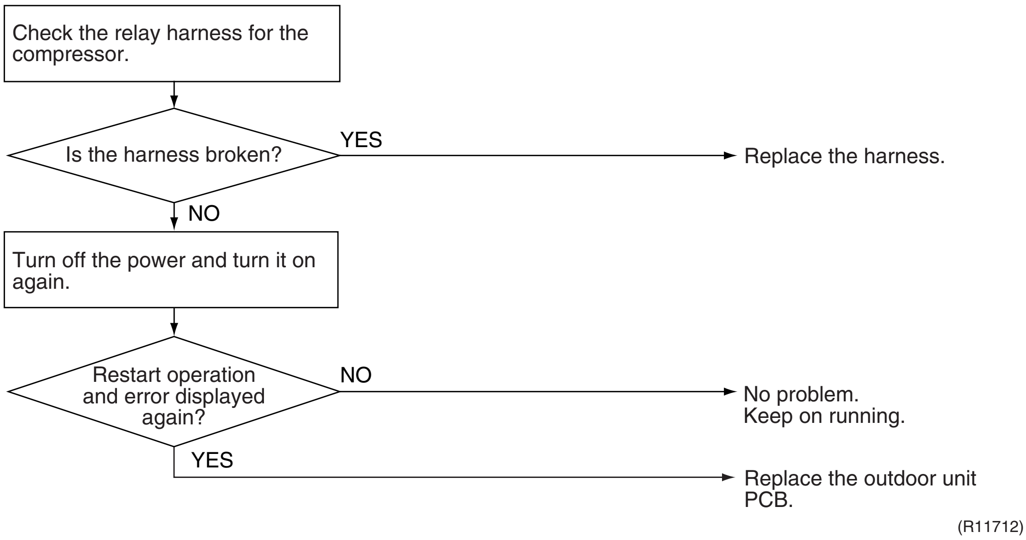
- The DC current before compressor start-up is out of the range 0.5 ~ 4.5 V (sensor output converted to voltage value)
- The DC voltage before compressor start-up is below 50 V.

Supposed Causes

- Broken or disconnected harness
- Defective outdoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



4.19 Position Sensor Abnormality

Error Code

H6

Method of Error Detection

A compressor start-up failure is detected by checking the compressor running condition through the position detection circuit.

Error Decision Conditions

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

Supposed Causes

- Disconnection of the compressor relay cable
- Defective compressor
- Defective outdoor unit PCB
- Start-up failure caused by the closed stop valve
- Input voltage is outside the specified range.

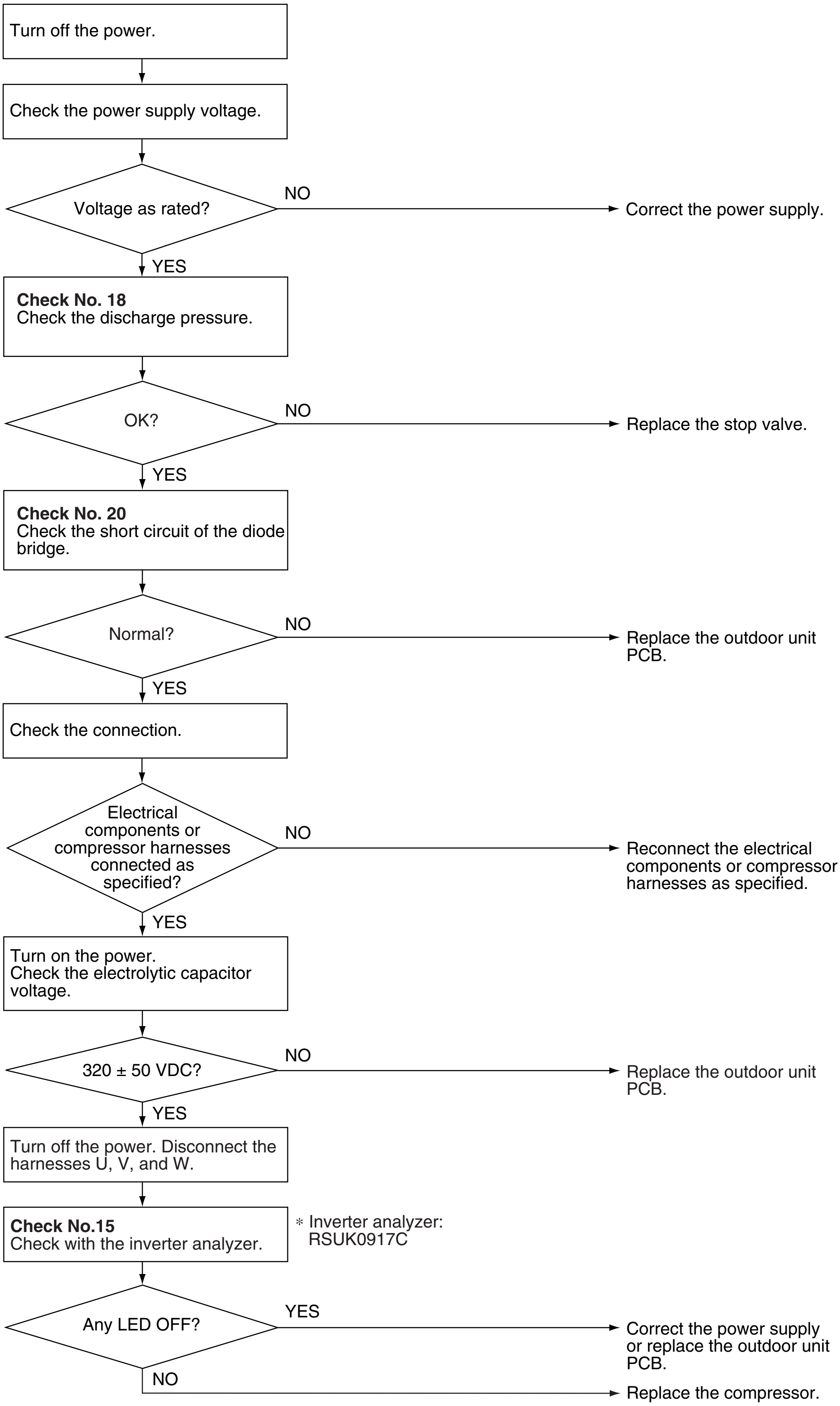
Troubleshooting

Check No.15
Refer to P.100

Check No.18
Refer to P.103

Check No.20
Refer to P.104

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R18319)

4.20 DC Voltage / Current Sensor Abnormality

Error Code

H8

Method of Error Detection

DC voltage or DC current sensor abnormality is identified based on the compressor running frequency and the input current.

Error Decision Conditions

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

- Defective outdoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Replace the outdoor unit PCB.

4.21 Thermistor or Related Abnormality (Outdoor Unit)

Error Code

H9, J3, J6, P4

Method of Error Detection

This fault is identified based on the thermistor input voltage to the microcomputer.
A thermistor fault is identified based on the temperature sensed by each thermistor.

Error Decision Conditions

- The thermistor input voltage is above 4.96 V or below 0.04 V with the power on.
- J3 error is judged if the discharge pipe temperature is lower than the heat exchanger temperature.

Supposed Causes

- Disconnection of the connector for the thermistor
- Defective thermistor corresponding to the error code
- Defective heat exchanger thermistor in the case of J3 error (outdoor heat exchanger thermistor in cooling operation, or indoor heat exchanger thermistor in heating operation)
- Defective outdoor unit PCB

Troubleshooting

In case of "P4" for RK(X)S25/35G2V1B, RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

⚠ **Caution** Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Replace the outdoor unit PCB.

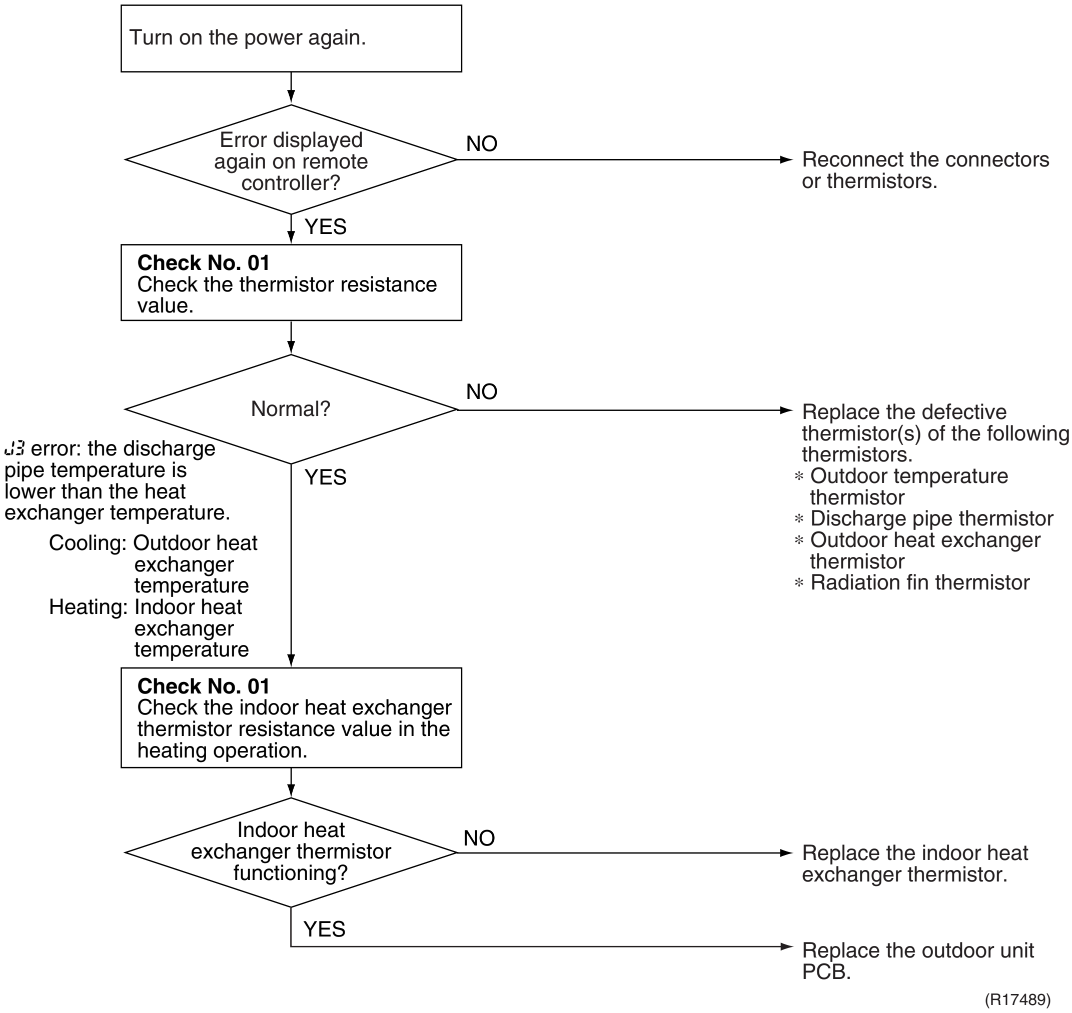
P4 : Radiation fin thermistor

Troubleshooting

Check No.01
Refer to P.96

- In case of RK(X)S25/35E2V1B
- In case of "H9" "J3" "J6" for RK(X)S25/35G2V1B, RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



H9 : Outdoor temperature thermistor
J3 : Discharge pipe thermistor
J6 : Outdoor heat exchanger thermistor
P4 : Radiation fin thermistor

4.22 Electrical Box Temperature Rise

Error Code

L3

Method of Error Detection

An electrical box temperature rise is detected by checking the radiation fin thermistor with the compressor off.

Error Decision Conditions

- With the compressor off, the radiation fin temperature is above **A**°C.
- The error is cleared when the radiation fin temperature drops below **B**°C.
- To cool the electrical components, the outdoor fan starts when the radiation fin temperature rises above **C**°C and stops when it drops below **B**°C.

	A (°C)	**B** (°C)	**C** (°C)
RK(X)S25/35E2V1B, RK(X)S25/35G2V1B	80	70	80
RK(X)S25/35G2V1B9, RXS25/35J2V1B RXS25K3V1B, RXS35K2V1B	98	75	83

Supposed Causes

- Defective outdoor fan motor
- Short circuit
- Defective radiation fin thermistor
- Disconnection of connector
- Defective outdoor unit PCB

Troubleshooting

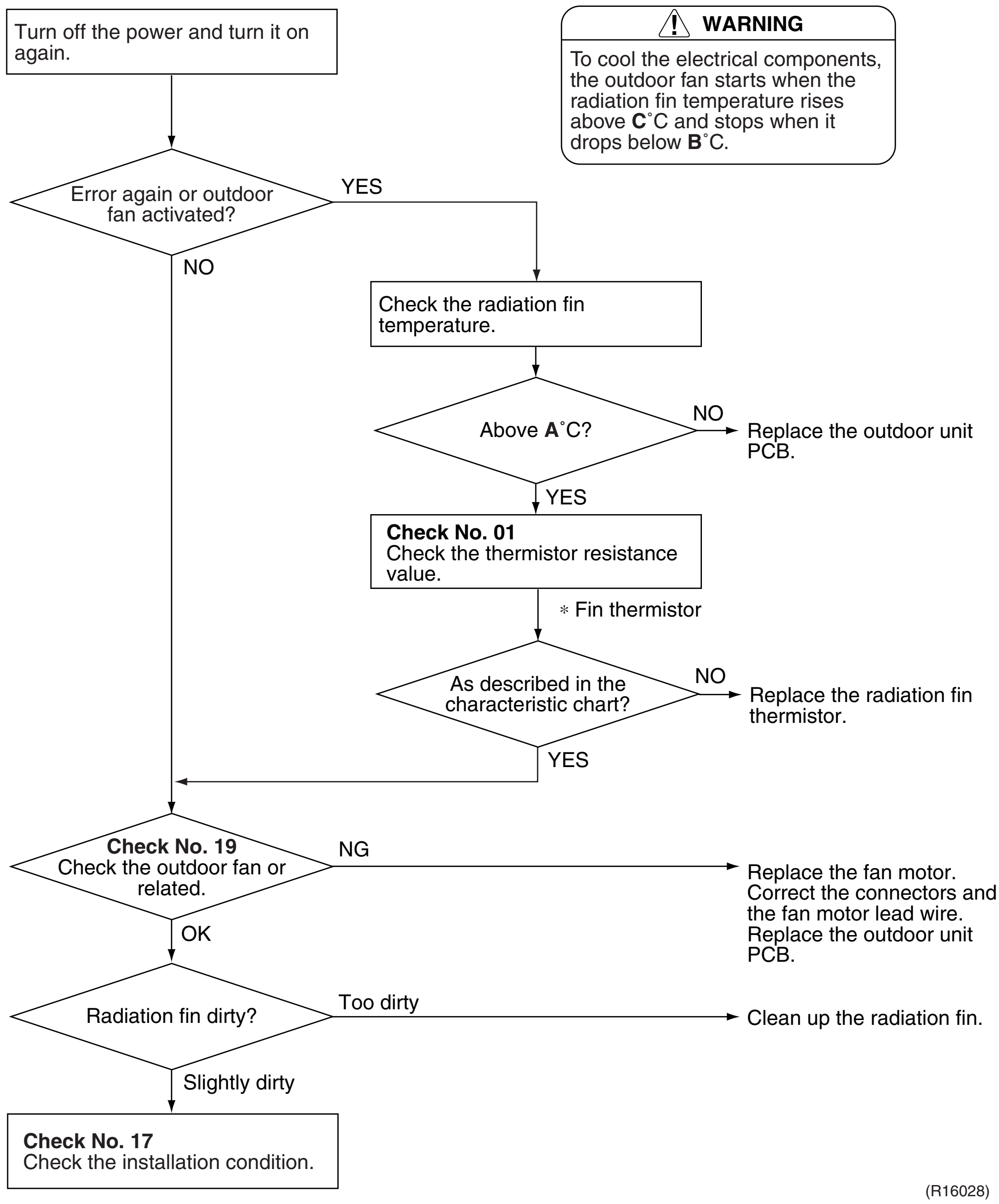
RK(X)S25/35E2V1B

Check No.01
Refer to P.96

Check No.17
Refer to P.103

Check No.19
Refer to P.104

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



	A (°C)	**B** (°C)	**C** (°C)
RK(X)S25/35E2V1B	80	70	80

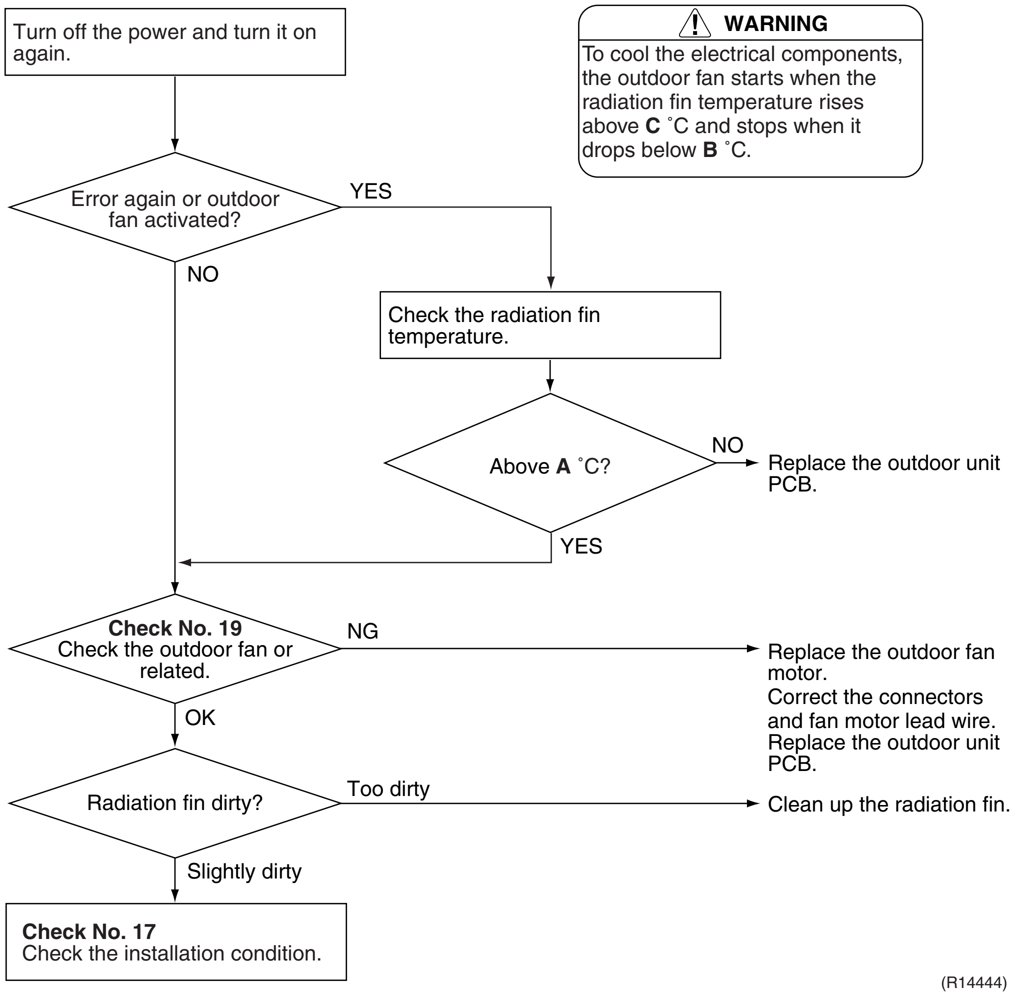
Troubleshooting

Check No.17
Refer to P.103

Check No.19
Refer to P.104

RK(X)S25/35G2V1B, RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



	A (°C)	**B** (°C)	**C** (°C)
RK(X)S25/35G2V1B	80	70	80
RK(X)S25/35G2V1B9 RXS25/35J2V1B RXS25K3V1B RXS35K2V1B	98	75	83

4.23 Radiation Fin Temperature Rise

Error Code

L4

Method of Error Detection

A radiation fin temperature rise is detected by checking the radiation fin thermistor with the compressor on.

Error Decision Conditions

- If the radiation fin temperature with the compressor on is above **A**°C.
- The error is cleared when the radiation fin temperature drops below **B**°C.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

	A (°C)	**B** (°C)
RK(X)S25/35E2V1B, RK(X)S25/35G2V1B	90	85
RK(X)S25/35G2V1B9, RXS25/35J2V1B RXS25K3V1B, RXS35K2V1B	98	78

Supposed Causes

- Defective outdoor fan motor
- Short circuit
- Defective radiation fin thermistor
- Disconnection of connector
- Defective outdoor unit PCB
- Silicon grease is not applied properly on the radiation fin after replacing the outdoor unit PCB.

Troubleshooting

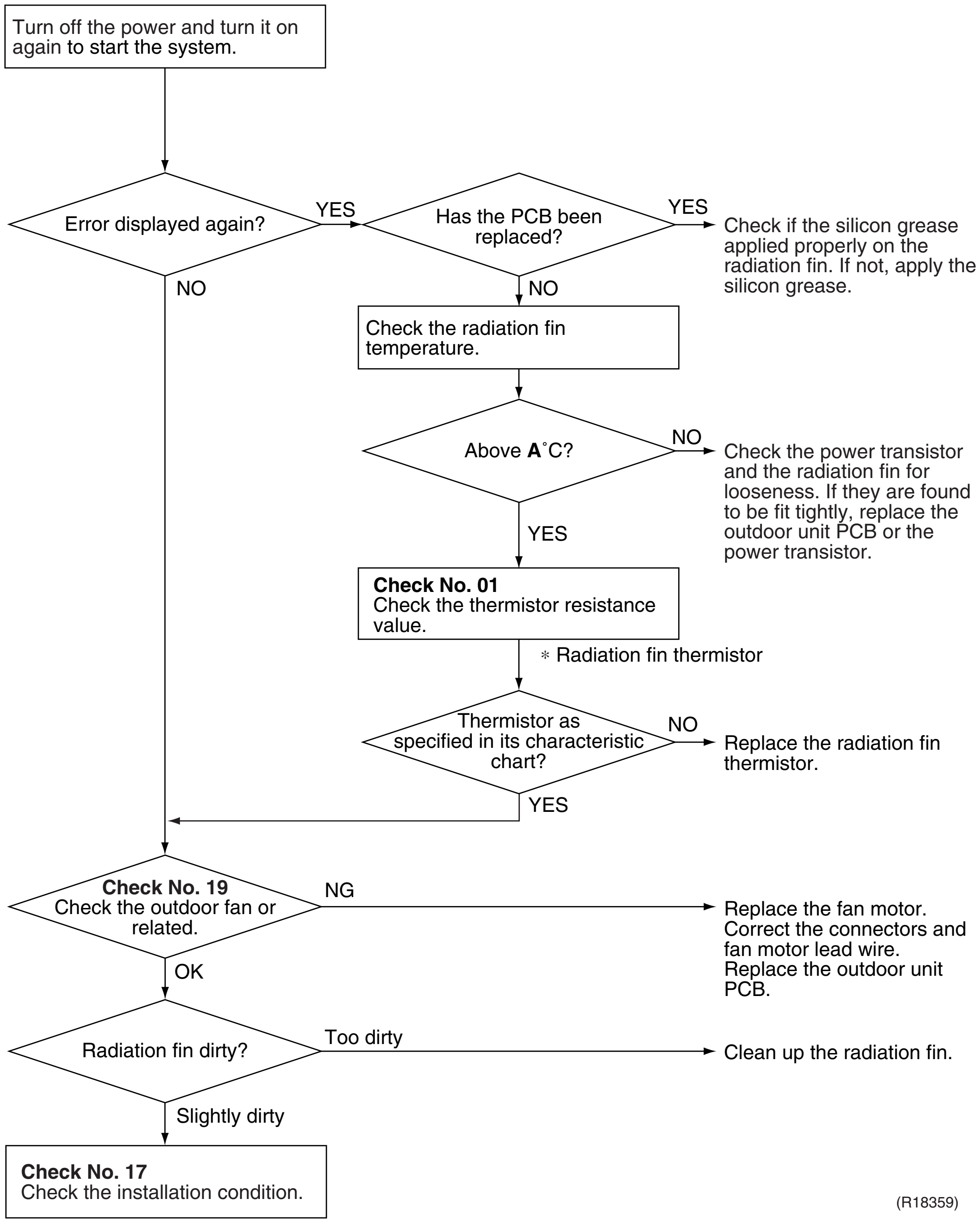
Check No.01
Refer to P.96

Check No.17
Refer to P.103

Check No.19
Refer to P.104

RK(X)S25/35E2V1B

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



	A (°C)
RK(X)S25/35E2V1B	90

Note: Refer to “Silicon Grease on Power Transistor / Diode Bridge” on page 116 for detail.

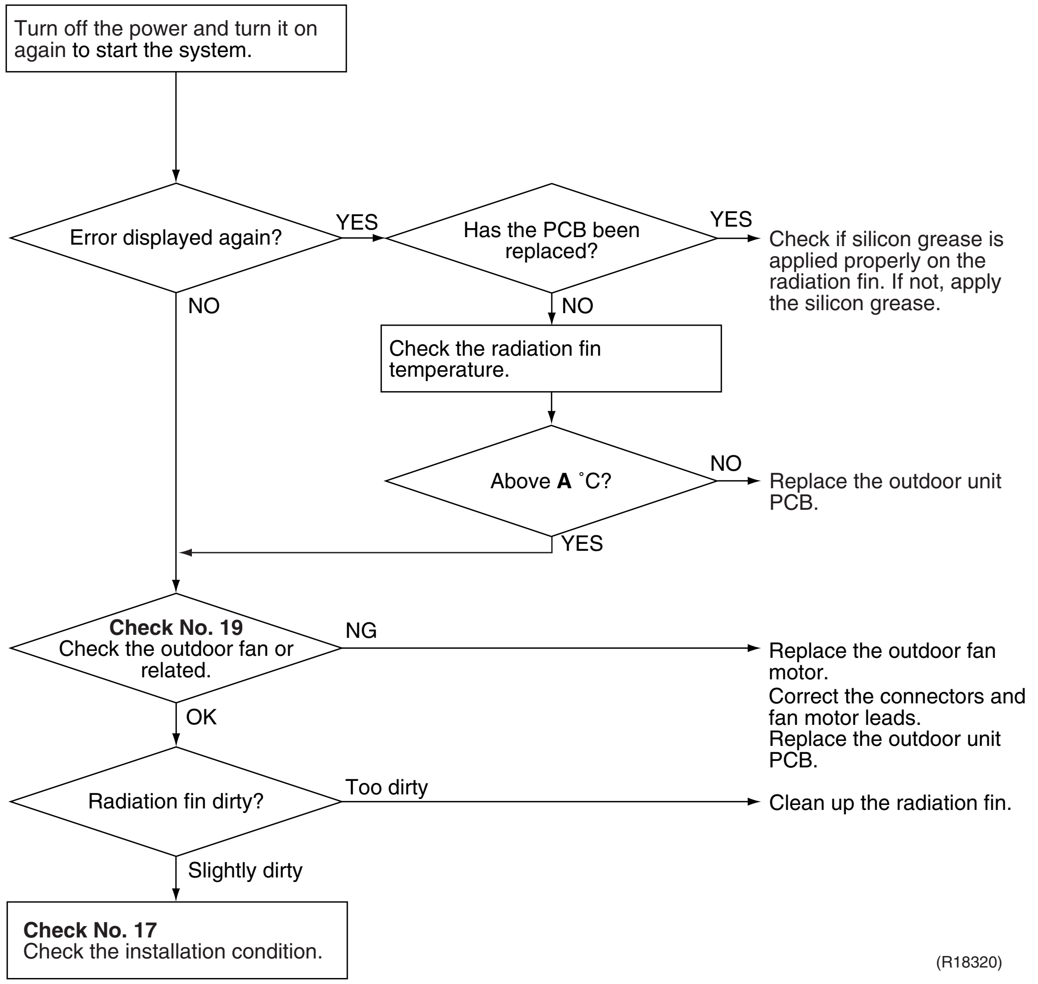
Troubleshooting

RK(X)S25/35G2V1B, RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Check No.17
Refer to P.103

Check No.19
Refer to P.104



	A (°C)
RK(X)S25/35G2V1B	90
RK(X)S25/35G2V1B9 RXS25/35J2V1B RXS25K3V1B RXS35K2V1B	98

Note: Refer to “Silicon Grease on Power Transistor / Diode Bridge” on page 116 for detail.

4.24 Output Overcurrent Detection

Error Code

L5

Method of Error Detection

An output overcurrent is detected by checking the current that flows in the inverter DC section.

Error Decision Conditions

- A position signal error occurs while the compressor is running.
- A rotation speed error occurs while the compressor is running.
- An output overcurrent signal is fed from the output overcurrent detection circuit to the microcomputer.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

Supposed Causes

- Poor installation condition
- Closed stop valve
- Defective power module
- Wrong internal wiring
- Abnormal power supply voltage
- Defective outdoor unit PCB
- Defective compressor

Troubleshooting

Check No.15
Refer to P.100

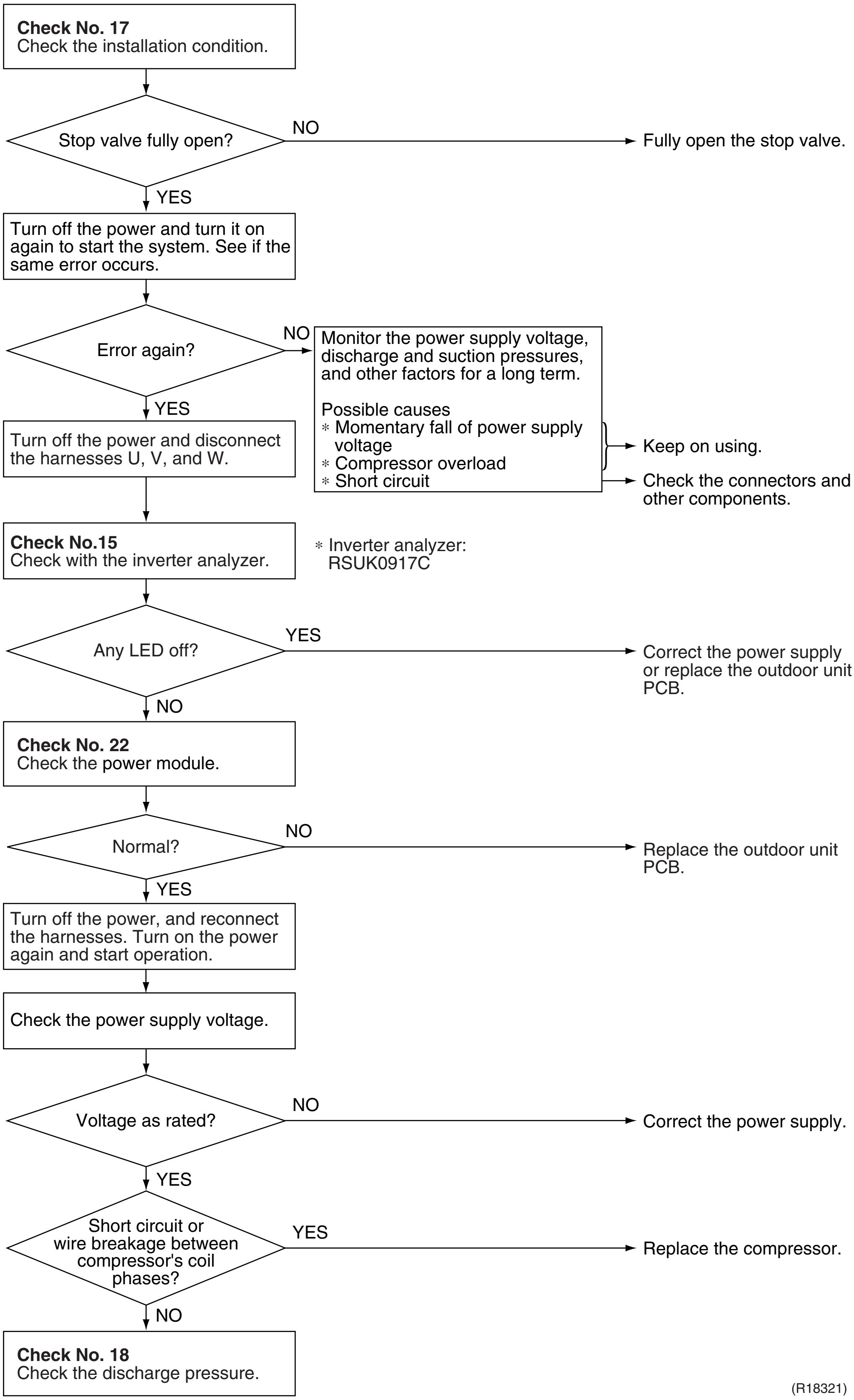
Check No.17
Refer to P.103

Check No.18
Refer to P.103

Check No.22
Refer to P.106

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

∗ An output overcurrent may result from wrong internal wiring. If the system is interrupted by an output overcurrent after the wires have been disconnected and reconnected for part replacement, check the wiring again.



5. Check

5.1 Thermistor Resistance Check

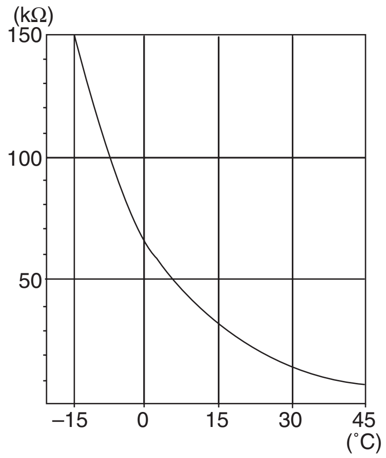
Check No.01

Disconnect the connectors of the thermistors from the PCB, and measure the resistance of each thermistor using tester.

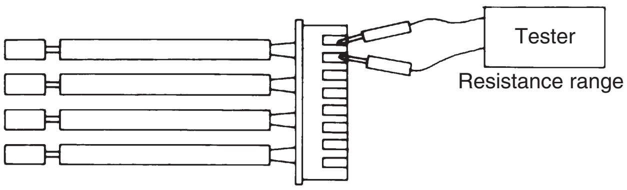
The data is for reference purpose only.

Thermistor temperature (°C)	Resistance (kΩ)
–20	197.8
–15	148.2
–10	112.1
–5	85.60
0	65.93
5	51.14
10	39.99
15	31.52
20	25.02
25	20.00
30	16.10
35	13.04
40	10.62
45	8.707
50	7.176

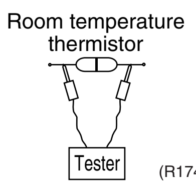
(R25°C = 20 kΩ, B = 3950 K)



(R11905)



(R11906)



(R17417)

- When the room temperature thermistor is soldered on the signal receiver PCB, remove the signal receiver PCB from the control PCB to measure the resistance.

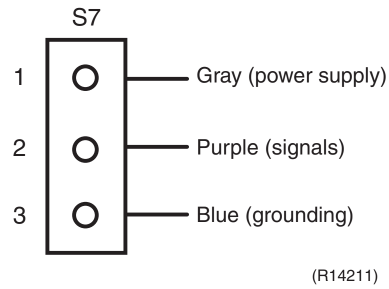
- When the connector of indoor heat exchanger thermistor is soldered on the PCB, remove the thermistor and measure the resistance.

5.2 Hall IC Check

Check No.04

1. Check the connector connection.
2. With the power on, operation off, and the connector connected, check the following.
   ∗Output voltage of about 5 V between pins 1 and 3.
   ∗Generation of 3 pulses between pins 2 and 3 when the fan motor is operating.

If NG in step 1 → Defective PCB → Replace the PCB.
If NG in step 2 → Defective Hall IC → Replace the fan motor.
If OK in both steps 1 and 2 → Replace the PCB.



5.3 Power Supply Waveforms Check

Check No.11

Measure the power supply waveform between No. 1 and No. 2 on the terminal board, and check the waveform disturbance.

- Check to see if the power supply waveform is a sine wave. (Fig.1)
- Check to see if there is waveform disturbance near the zero cross. (sections circled in Fig.2)

Fig.1

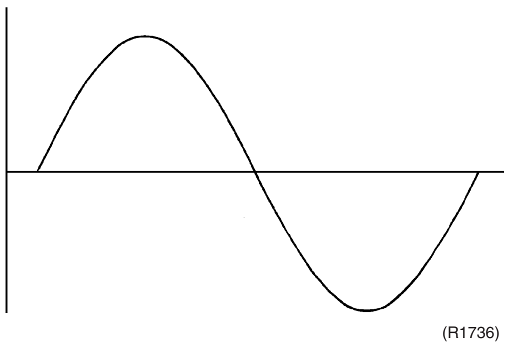
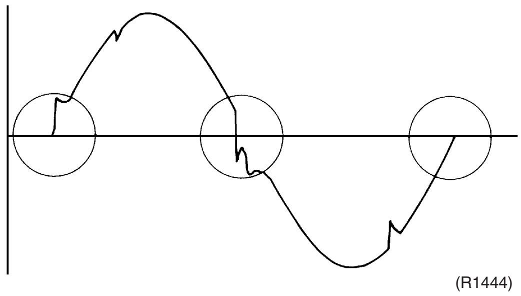


Fig.2

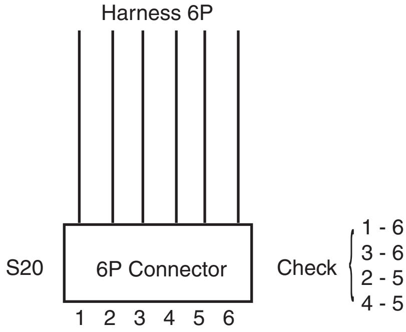


5.4 Electronic Expansion Valve Check

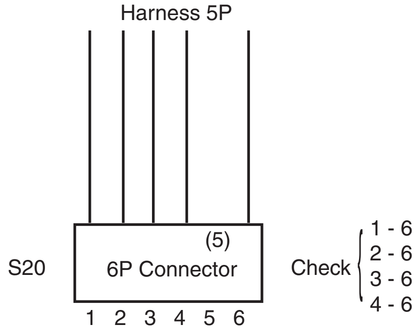
Check No.12

Conduct the followings to check the electronic expansion valve (EV).

1. Check to see if the EV connector is correctly connected to the PCB.
2. Turn the power off and on again, and check to see if the EV generates a latching sound.
3. If the EV does not generate a latching sound in the above step 2, disconnect the connector and check the continuity using a tester.
4. Check the continuity between the pins 1 - 6, 3 - 6, 2 - 5, 4 - 5 (between the pins 1 - 6, 2 - 6, 3 - 6, 4 - 6 for the harness 5P models). If there is no continuity between the pins, the EV coil is faulty.



(R16385)



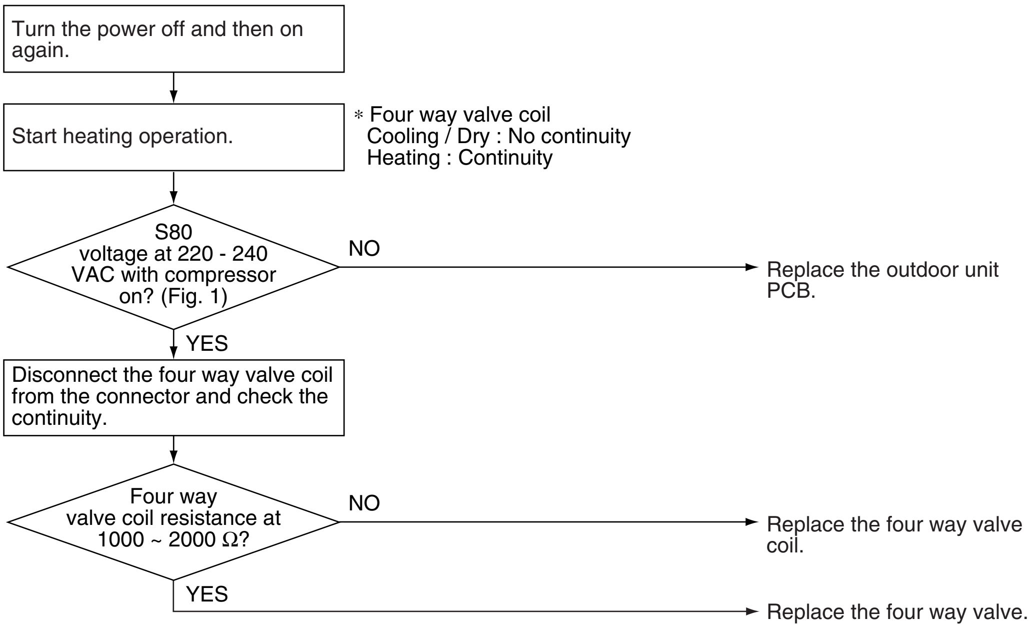
(R16386)

5. If the continuity is confirmed in step 3, the outdoor unit PCB is faulty.

Note: Please note that the latching sound varies depending on the valve type.

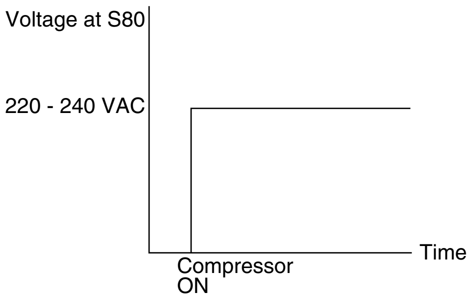
5.5 Four Way Valve Performance Check

Check No.13



(R15737)

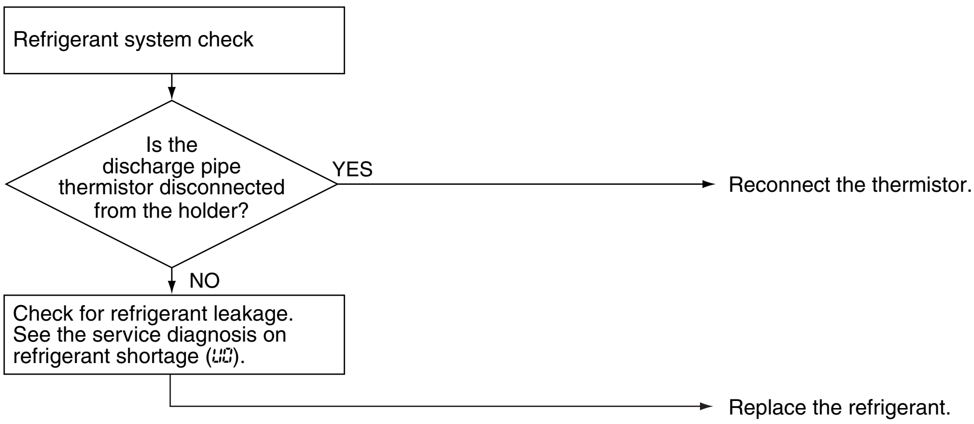
(Fig. 1)



(R11904)

5.6 Inverter Units Refrigerant System Check

Check No.14



(R15833)

5.7 Inverter Analyzer Check

Check No.15

■ **Characteristics**

Inverter analyzer: RSUK0917C

If an abnormal stop occurs due to compressor startup failure or overcurrent output when using an inverter unit, it is difficult to judge whether the stop is caused by the compressor failure or some other failure (main PCB, power module, etc.). The inverter analyzer makes it possible to judge the cause of trouble easily and securely. (Connect an inverter analyzer as a quasi-compressor instead of compressor and check the output of the inverter)

■ **Operation Method**

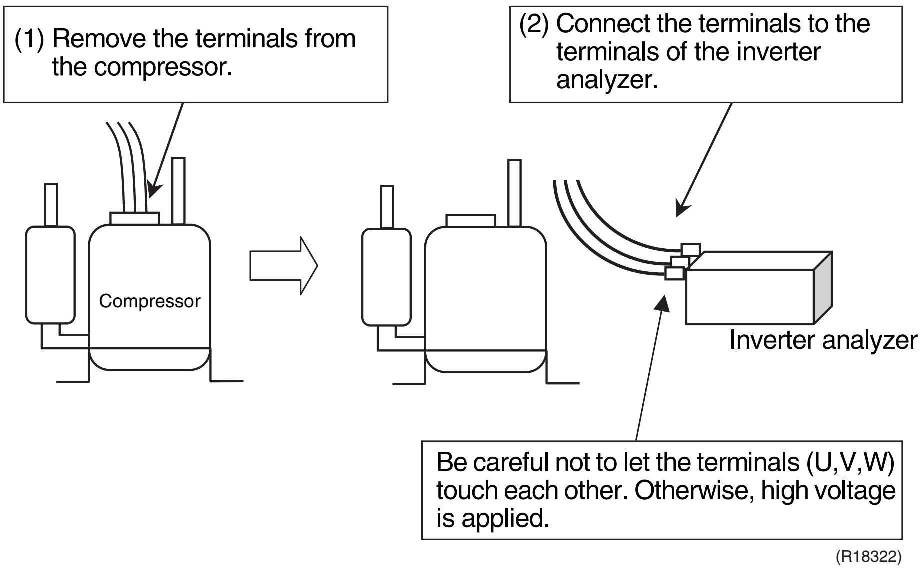
Step 1

Be sure to turn the power off.

Step 2

Install an inverter analyzer instead of a compressor.

Note:
Make sure the charged voltage of the built-in smoothing electrolytic capacitor drops to 10 VDC or below before carrying out the service work.



Reference:
If the terminals of the compressor are not FASTON terminals (difficult to remove the wire on the terminals), it is possible to connect wires available on site to the outdoor unit from output side of PCB. (Do not connect them to the compressor at the same time, otherwise it may result in incorrect detection.)

Step 3

Activate the power transistor test operation from the outdoor unit.

1) Press the forced cooling operation [ON/OFF] button for 5 seconds.
(Refer to page 110 for the position.)
→ Power transistor test operation starts.

■ **Diagnose method (Diagnose according to 6 LEDs lighting status.)**

(1) If all the LEDs are lit uniformly, the compressor is defective.
→ Replace the compressor.

(2) If the LEDs are not lit uniformly, check the power module.
→ Refer to **Check No.22**.

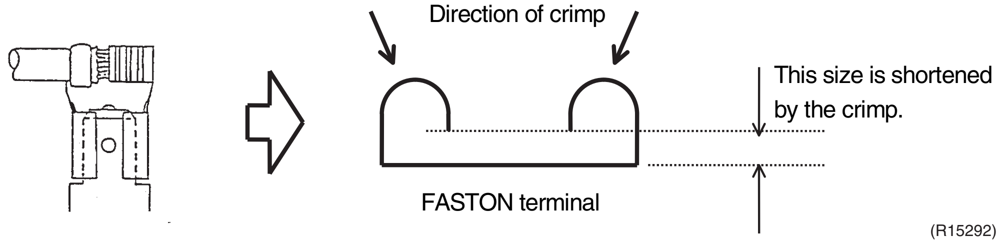
(3) If NG in **Check No.22**, replace the power module.
(Replace the main PCB. The power module is united with the main PCB.)
If OK in **Check No.22**, check if there is any solder cracking on the PCB.

(4) If any solder cracking is found, replace the PCB or repair the soldered section.
If there is no solder cracking, replace the PCB.

Caution

(1) When the output frequency is low, the LEDs blink slowly. As the output frequency increases, the LEDs blink quicker. (The LEDs look like they are lit.)

(2) On completion of the inverter analyzer diagnosis, be sure to re-crimp the FASTON terminals. Otherwise, the terminals may be burned due to loosening.



(R15292)

5.8 Rotation Pulse Check on the Outdoor Unit PCB

Check No.16

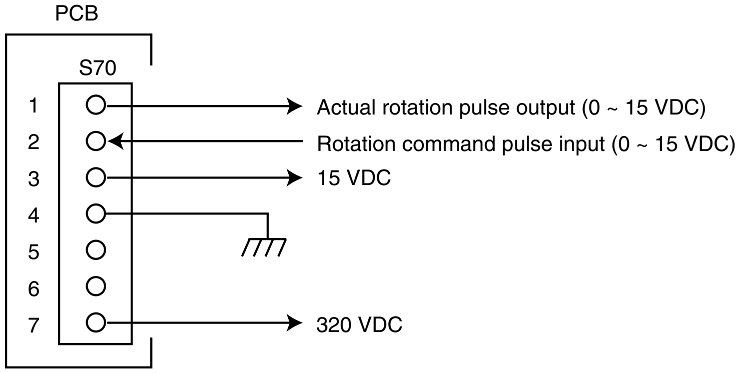
RK(X)S25/35E2V1B, RK(X)S25/35G2V1B

Make sure that the voltage of 320 ± 30 V is applied.

1. Set operation off and power off. Disconnect the connector S70.
2. Check that the voltage between the pins 4 - 7 is 320 VDC.
3. Check that the control voltage between the pins 3 - 4 is 15 VDC.
4. Check that the rotation command voltage between the pins 2 - 4 is 0 ~ 15 VDC.
5. Keep operation off and power off. Connect the connector S70.
6. Check whether 2 pulses (0 ~ 15 VDC) are output at the pins 1 - 4 when the fan motor is rotated 1 turn by hand.

When the fuse is melted, check the outdoor fan motor for proper function.

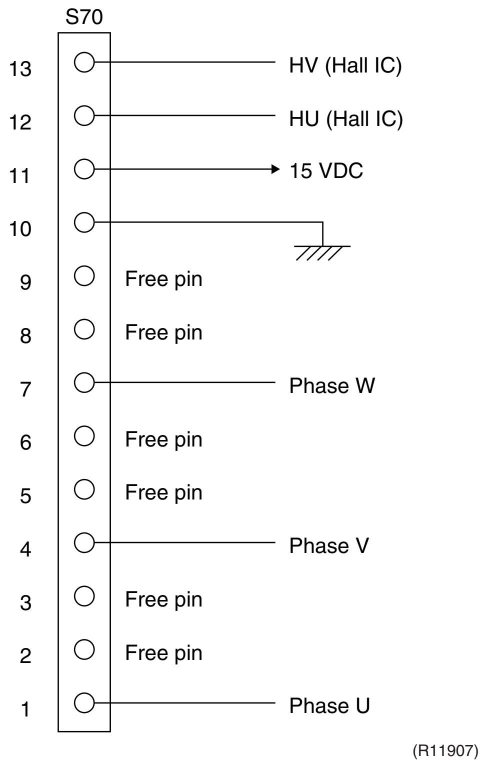
If NG in step 2 → Defective PCB → Replace the outdoor unit PCB.
If NG in step 4 → Defective Hall IC → Replace the outdoor fan motor.
If OK in both steps 2 and 4 → Replace the outdoor unit PCB.



(R10811)

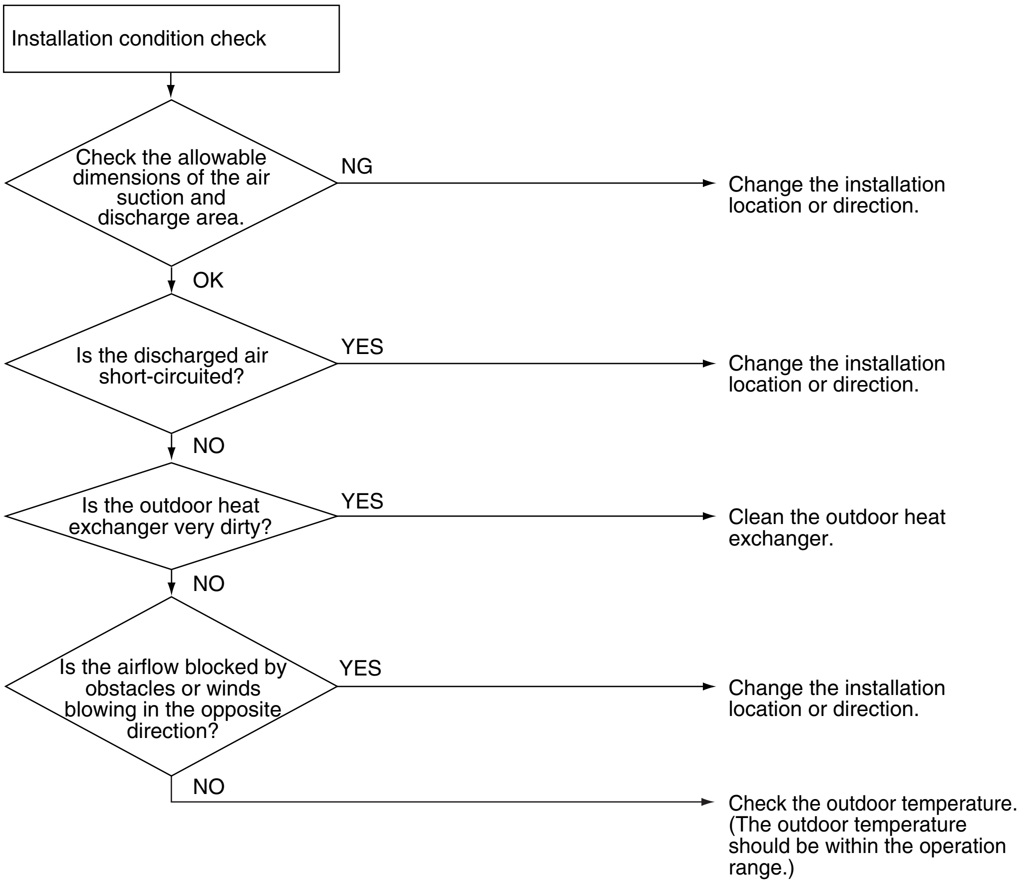
RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

1. Check that the voltage between the pins 10 - 11 is 15 VDC.
2. Check if the Hall IC generates the rotation pulse (0 ~ 15 VDC) 4 times between the pins 10 - 12, 10 - 13, when the fan motor is manually rotated once.



5.9 Installation Condition Check

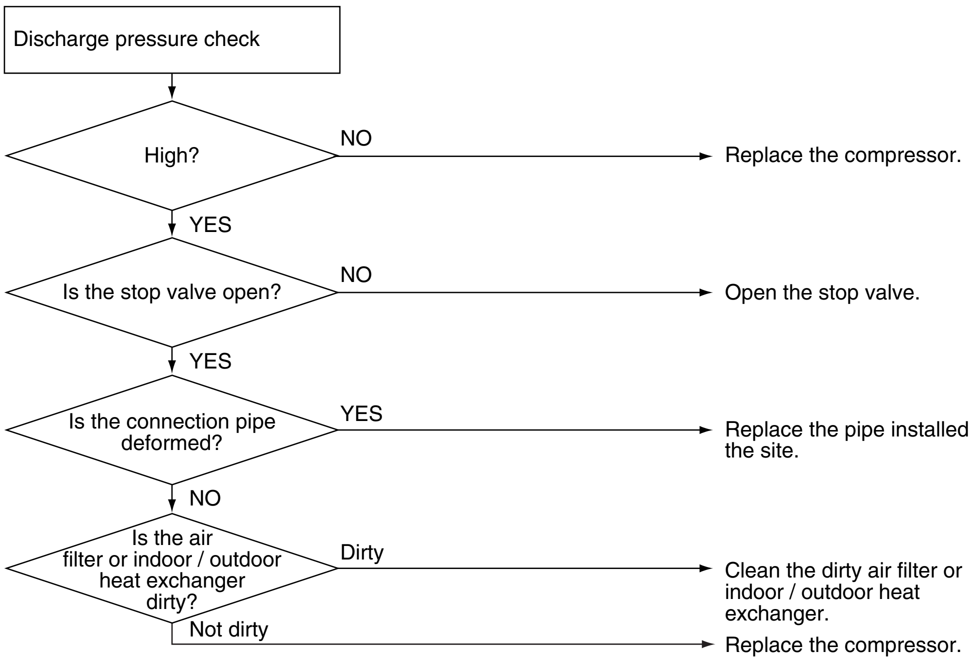
Check No.17



(R17537)

5.10 Discharge Pressure Check

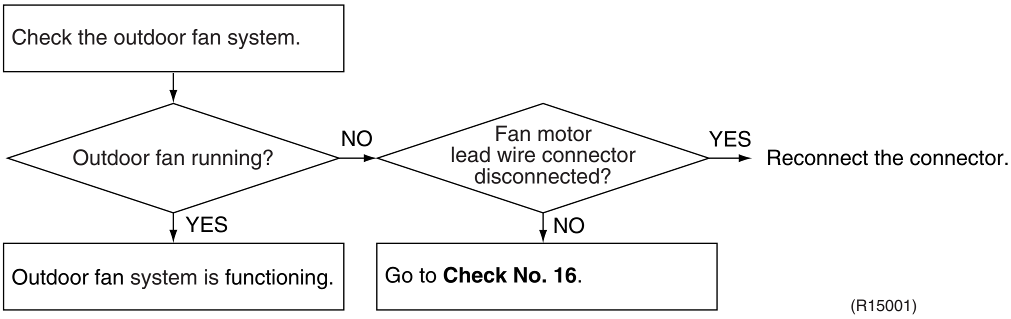
Check No.18



(R15738)

5.11 Outdoor Fan System Check

Check No.19 **DC motor**



(R15001)

5.12 Main Circuit Short Check

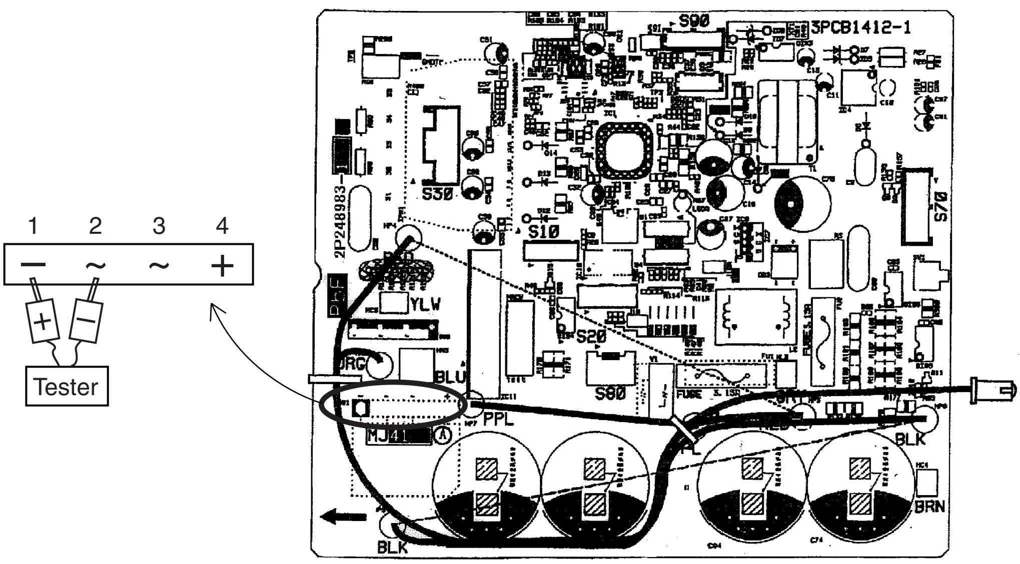
Check No.20

Note: Check to make sure that the voltage between (+) and (–) of the diode bridge (DB1) is approx. 0 V before checking.

- Measure the resistance between the pins of the DB1 referring to the table below.
- If the resistance is ∞ or less than 1 kΩ, short circuit occurs on the main circuit.

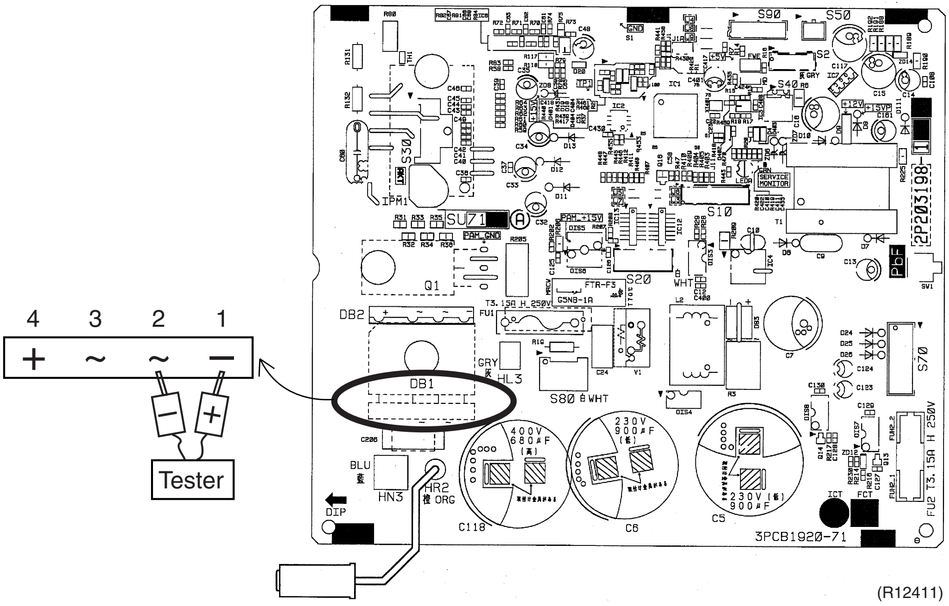
Negative (–) terminal of tester (positive terminal (+) for digital tester)	~ (2, 3)	+ (4)	~ (2, 3)	– (1)
Positive (+) terminal of tester (negative terminal (–) for digital tester)	+ (4)	~ (2, 3)	– (1)	~ (2, 3)
Resistance is OK.	several kΩ ~ several MΩ	∞	∞	several kΩ ~ several MΩ
Resistance is NG.	0 Ω or ∞	0	0	0 Ω or ∞

RK(X)S25/35E2V1B



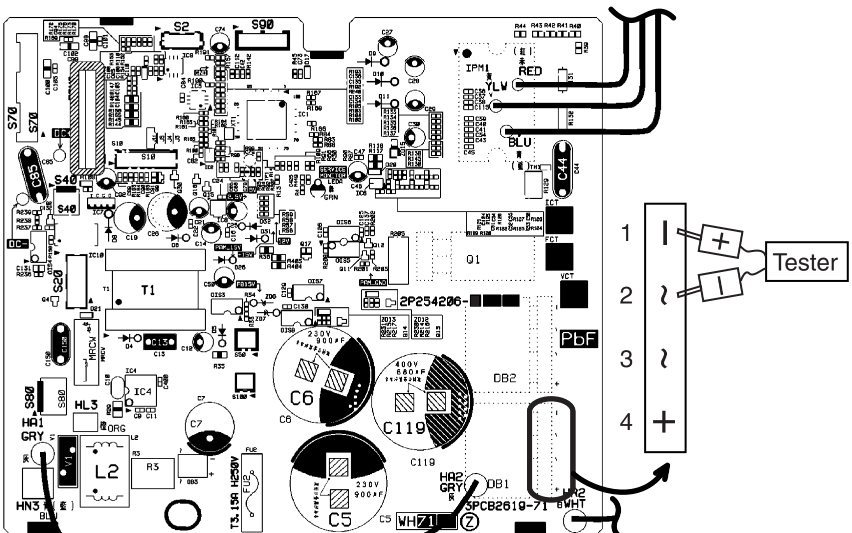
(R12412)

RK(X)S25/35G2V1B



(R12411)

RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B



(R12035)

5.13 Power Module Check

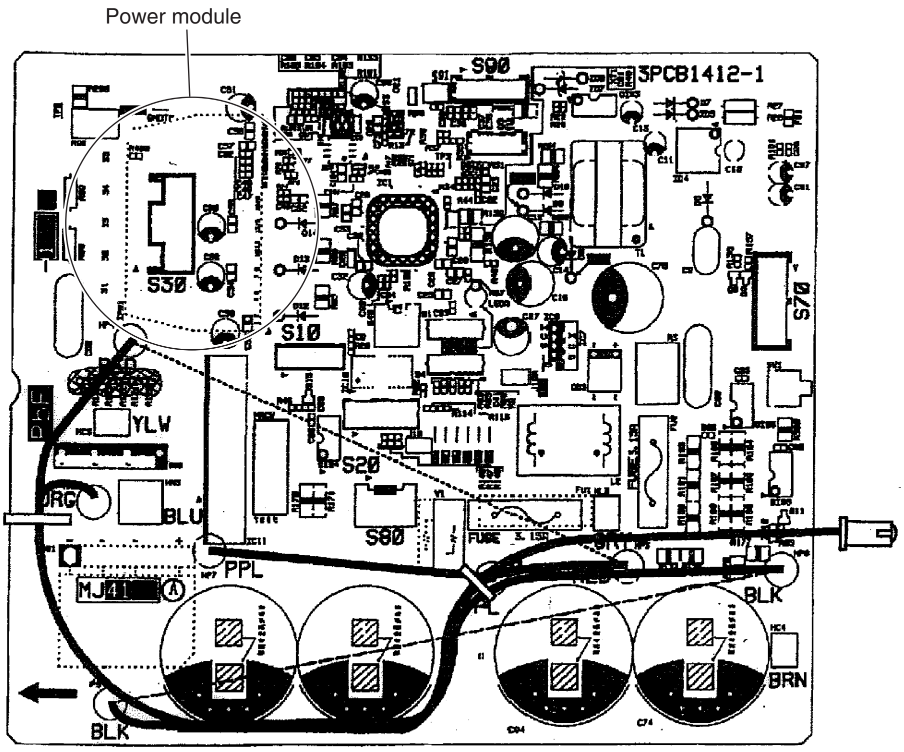
Check No.22

Note: Check to make sure that the voltage between (+) and (–) of the power module is approx. 0 V before checking.

- Disconnect the compressor harness connector from the outdoor unit PCB. To disengage the connector, press the protrusion on the connector.
- Follow the procedure below to measure resistance between the terminals of the power module and the terminals of the compressor with a multi-tester. Evaluate the measurement results referring to the following table.

Negative (–) terminal of tester (positive terminal (+) for digital tester)	Power module (+)	UVW	Power module (–)	UVW
Positive (+) terminal of tester (negative terminal (–) for digital tester)	UVW	Power module (+)	UVW	Power module (–)
Resistance is OK.	several kΩ ~ several MΩ			
Resistance is NG.	0 Ω or ∞			

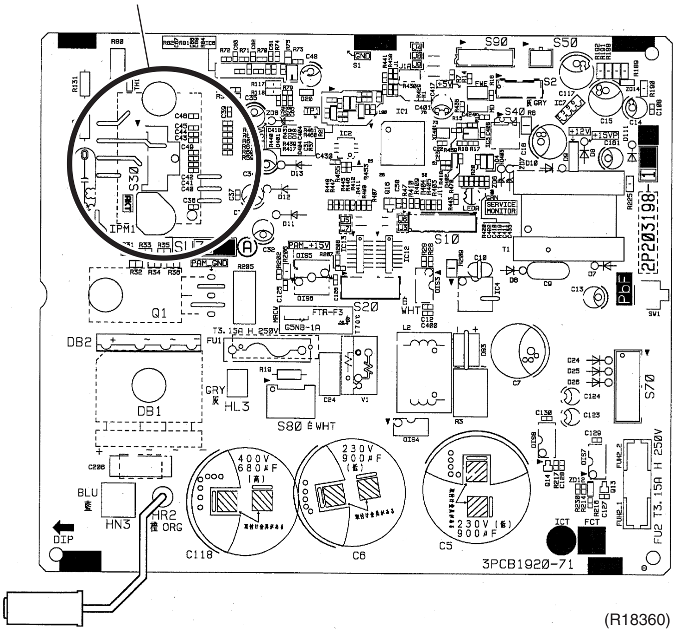
RK(X)S25/35E2V1B



(R16389)

RK(X)S25/35G2V1B

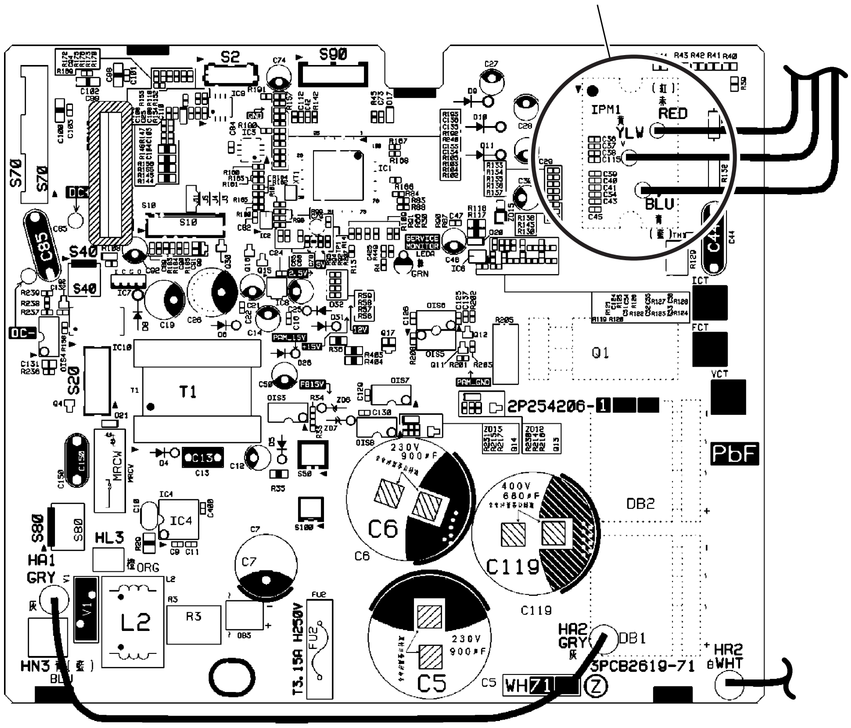
Power module



(R18360)

RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

Power module



(R16069)

Part 7 Trial Operation and Field Settings

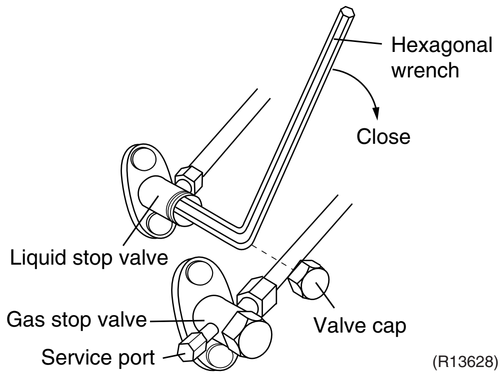
1. Pump Down Operation

Outline

In order to protect the environment, be sure to conduct pump down operation when relocating or disposing the unit.

Detail

1) Remove the valve caps from the liquid stop valve and the gas stop valve.
2) Carry out forced cooling operation.
3) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
4) After 2 to 3 minutes, close the gas stop valve and stop the forced cooling operation.

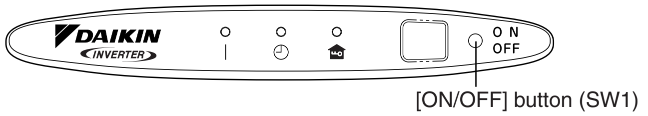


Refer to page 110 for forced cooling operation.

2. Forced Cooling Operation

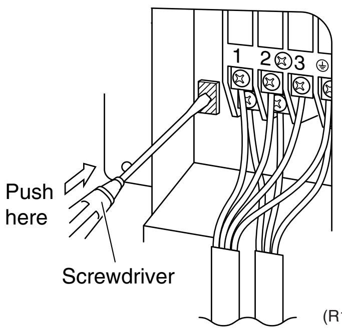
Item	Forced Cooling
Conditions	The forced cooling operation is allowed when both of the following conditions are met. 1) The outdoor unit is not abnormal and not in the 3-minute standby mode. 2) The outdoor unit is not operating.
Start	The forced cooling operation starts when any of the following conditions is fulfilled. 1) Press the forced cooling operation ON/OFF button (SW1) on the indoor unit for 5 seconds. 2) Press the forced cooling operation ON/OFF button (SW1) on the outdoor unit.
Command frequency	RK(X)S25/35E2V1B, RK(X)S25/35G2V1B: 68 Hz RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B: 58 Hz
End	The forced cooling operation ends when any of the following conditions is fulfilled. 1) The operation ends automatically after 15 minutes. 2) Press the forced cooling operation ON/OFF button (SW1) on the indoor unit again. 3) Press the [ON/OFF] button on the remote controller. 4) Press the forced cooling operation ON/OFF button (SW1) on the outdoor unit.
Others	Protection functions have priority over all other functions during forced cooling operation.

Indoor Unit



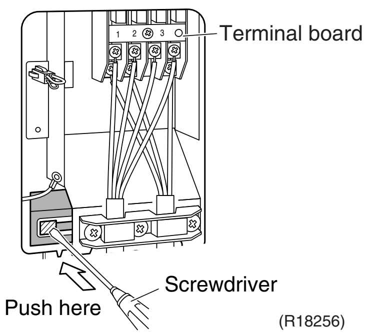
(R18371)

Outdoor Unit: RK(X)S25/35E2V1B, RK(X)S25/35G2V1B



(R18372)

Outdoor Unit: RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B



(R18256)

Caution When pressing the button, do not touch the terminal board. It has a high voltage and may cause electric shock.

3. Trial Operation

Outline

1. Measure the supply voltage and make sure that it falls within the specified range.
2. Trial operation should be carried out in either cooling or heating operation.
3. Carry out the trial operation in accordance with the operation manual to ensure that all functions and parts, such as flap movement, are working properly.

- The air conditioner requires a small amount of power in standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system backs up the operation mode. The system then restarts operation with the previous operation mode when the circuit breaker is restored.

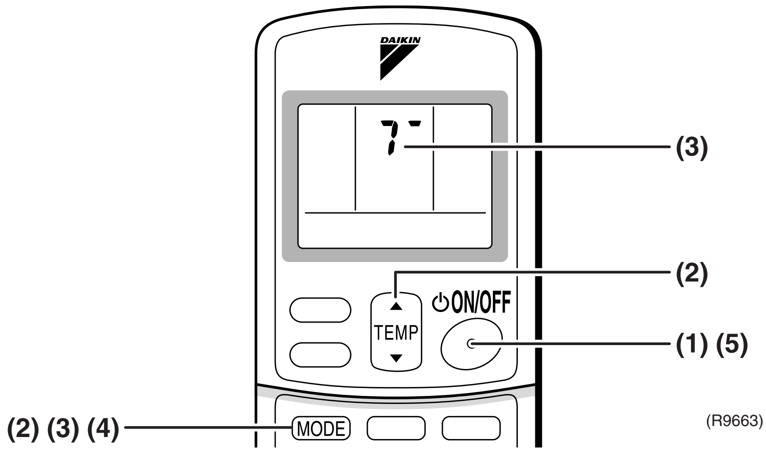
In cooling operation, select the lowest programmable temperature (18°C); in heating operation, select the highest programmable temperature (30°C).

- Trial operation may be disabled in either operation mode depending on the room temperature.
- After trial operation is complete, set the temperature to a normal level. (26°C ~ 28°C in cooling, 20°C ~ 24°C in heating)
- For protection, the system does not start for 3 minutes after it is turned off.

Detail

ARC433 Series

(1) Press the [ON/OFF] button to turn on the system.
(2) Press the center of the [TEMP] button and the [MODE] button at the same time.
(3) Press the [MODE] button twice.
(7ˉ appears on the display to indicate that trial operation is selected.)
(4) Press the [MODE] button and select operation mode.
(5) Trial operation terminates in approx. 30 minutes and switches into normal mode. To quit a trial operation, press the [ON/OFF] button.



4. Field Settings

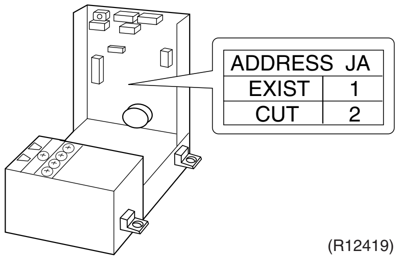
4.1 When 2 Units are Installed in 1 Room

Outline

When 2 indoor units are installed in 1 room, 1 of the 2 indoor units and the corresponding wireless remote controller can be set for different addresses.
Both the indoor unit PCB and the wireless remote controller need alteration.

Indoor Unit PCB

■ Cut the address setting jumper JA on the control PCB.



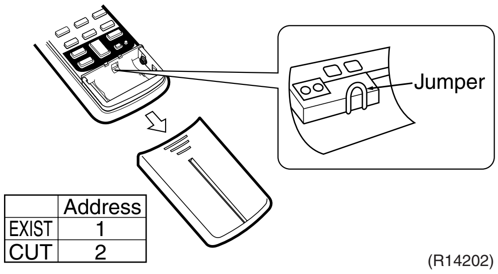
(R12419)

Caution

Replace the PCB if you accidentally cut a wrong jumper.
Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

Wireless Remote Controller

■ Cut the address setting jumper.



(R14202)

4.2 Facility Setting Jumper (cooling at low outdoor temperature)

Outline

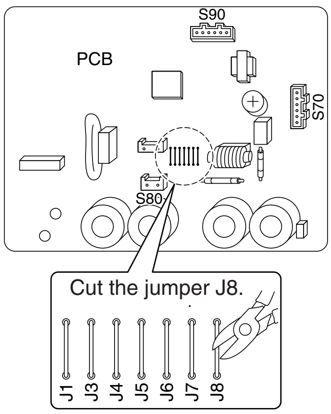
This function is limited only for facilities (the target of air conditioning is equipment (such as computer)). Never use it in a residence or office (the space where there is a human).

Detail

You can expand the operation range to –15°C by cutting the jumper on the outdoor unit PCB. If the outdoor temperature falls to –20°C or lower, the operation stops. If the outdoor temperature rises, the operation starts again.

- **RKS25/35E2V1B**

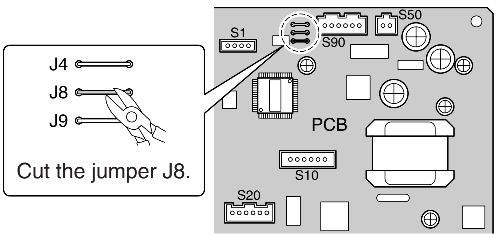
Main PCB



(R18373)

- **RK(X)S25/35G2V1B**

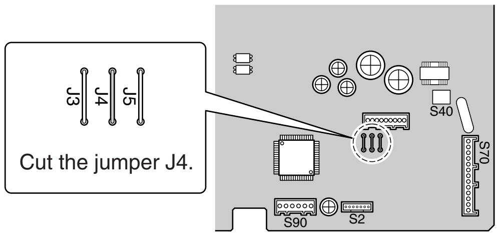
Main PCB



(R18374)

■ **RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B**

Main PCB



(R18253)

Caution

1. If the outdoor unit is installed where the outdoor heat exchanger of the unit is exposed to direct wind, provide a windbreak wall.
2. Intermittent noises may be produced by the indoor unit due to the outdoor fan turning on and off when using facility settings.
3. Do not place humidifiers or other items which might raise the humidity in rooms where facility settings are being used.
   A humidifier might cause dew condensation from the indoor unit outlet vent.
4. Cutting the jumper sets the indoor fan tap to the highest position.

Caution

Replace the PCB if you accidentally cut a wrong jumper.
Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

4.3 Jumper and Switch Settings

Jumper

Jumper	Function	When connected (factory set)	When cut
JB (on indoor unit PCB)	Fan speed setting when compressor stops for thermostat OFF. (effective only in cooling operation)	Fan speed setting; Remote controller setting	Fan speed setting; “0” (The fan stops.)
JC (on indoor unit PCB)	Power failure recovery function	Auto-restart	The unit does not resume operation after recovering from a power failure. Timer settings are cleared.
J5 (on outdoor unit PCB)	Improvement of defrost performance	Standard control	Reinforced control (ex. The frequency increases, the duration time of defrost lengthens.)

Caution **Replace the PCB if you accidentally cut a wrong jumper.**
Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

For the location of the jumper, refer to the following pages.
Indoor unit; page 16
Outdoor unit; page 18, 20, 22

Switch

Switch	Function	FLOOR (factory set)	CEILING
SW2 (on indoor unit PCB)	Installation style changeover	When installed as the floor mounted type	When installed as the ceiling suspended type

For the location of the switch, refer to page 16.

5. Silicon Grease on Power Transistor / Diode Bridge

Outline

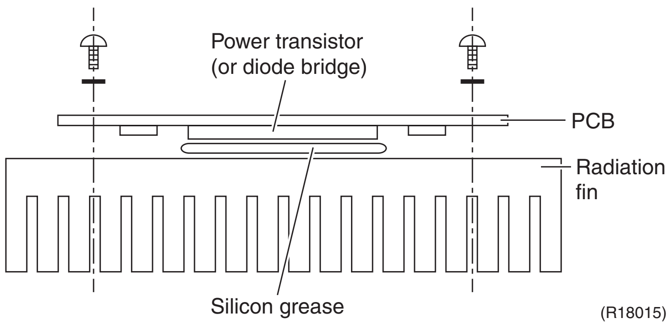
Apply the specified silicon grease to the heat radiation part of a power transistor / diode bridge when you replace an outdoor unit PCB. The silicon grease encourages the heat radiation of a power transistor / diode bridge.

Detail

1. Wipe off the old silicon grease completely.
2. Apply the silicon grease evenly. See the illustrations below for examples of application.
3. Tighten the screws of the power transistor / diode bridge.
4. Make sure that the heat radiation parts are firmly contacted to the radiation fin.

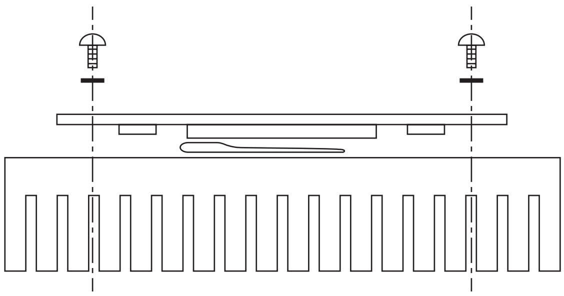
Note: Smoke emission may be caused by bad heat radiation when the silicon grease is not appropriately applied.

■ OK: Evenly applied



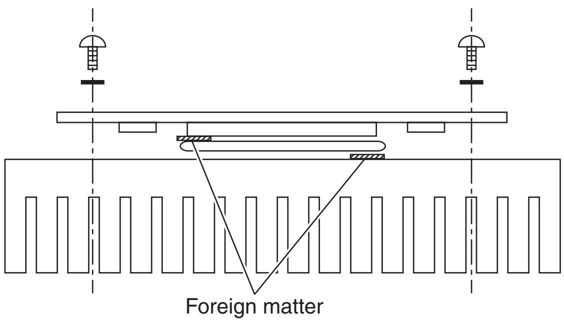
(R18015)

■ NG: Not evenly applied



(R18016)

■ NG: Foreign matter is stuck.



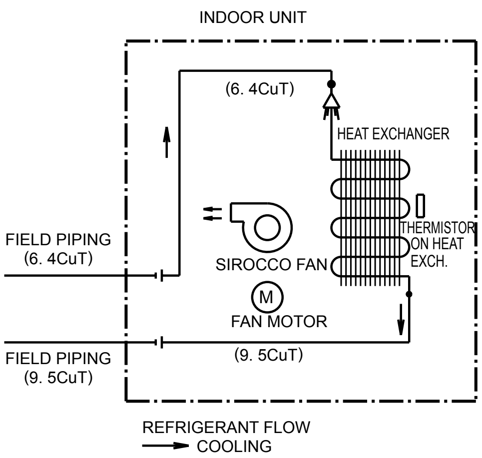
(R18017)

Part 8
Appendix

1. Piping Diagrams

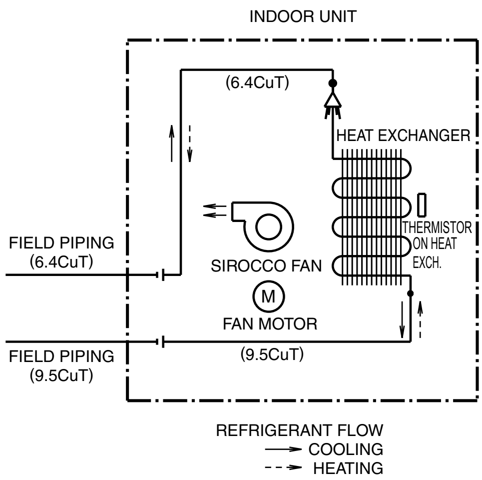
1.1 Indoor Unit

FLKS25/35BAVMB



4D034012E

FLXS25/35BAVMB

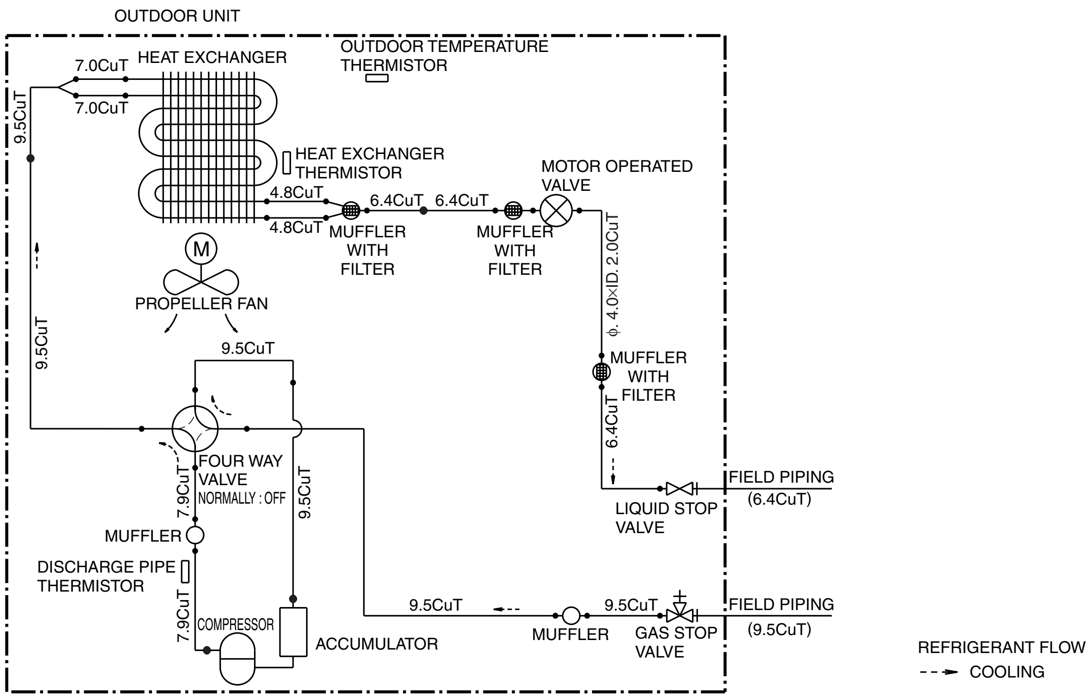


4D048722B

1.2 Outdoor Unit

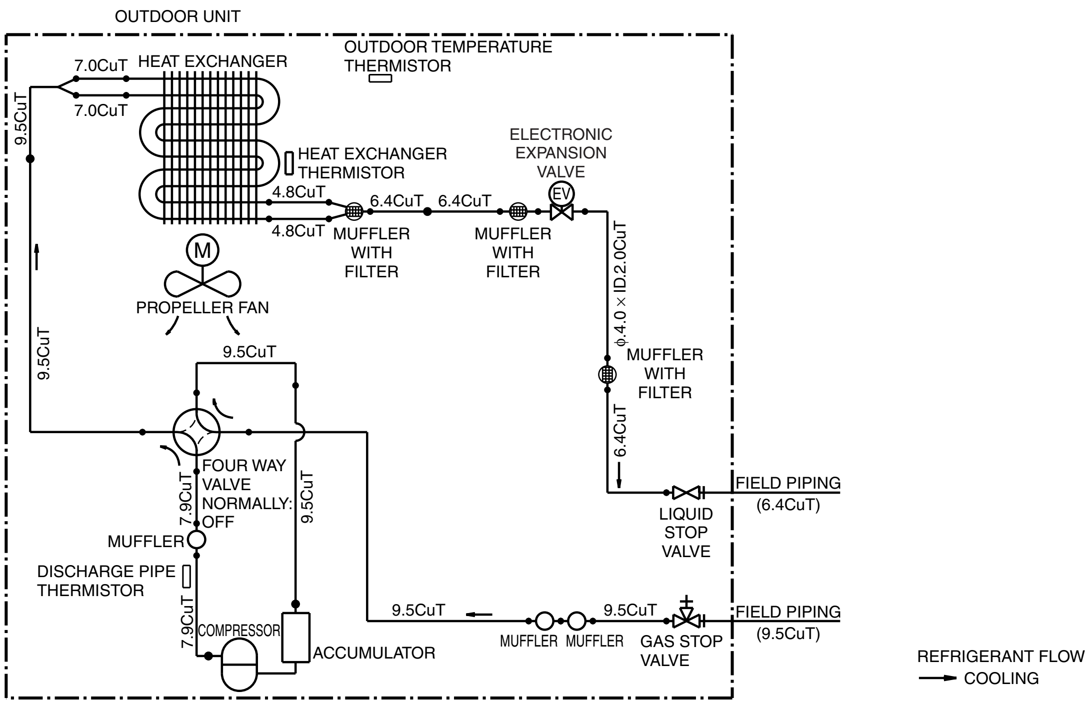
1.2.1 Cooling Only

RKS25/35E2V1B



3D047318G

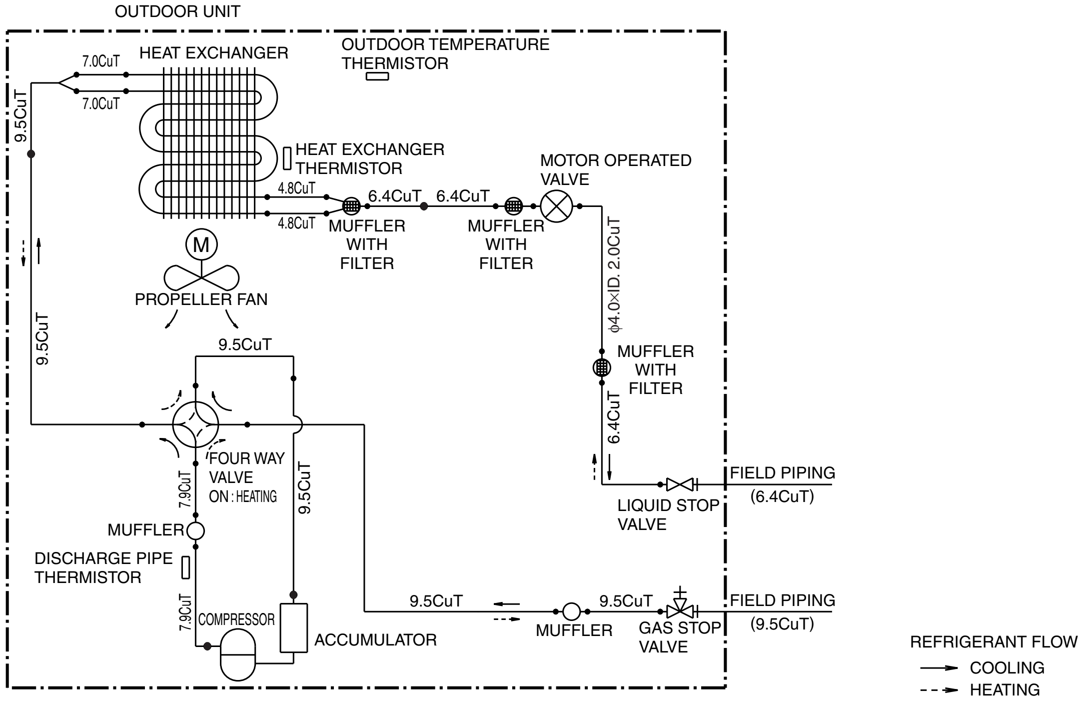
RKS25/35G2V1B, RKS25/35G2V1B9



3D059589G

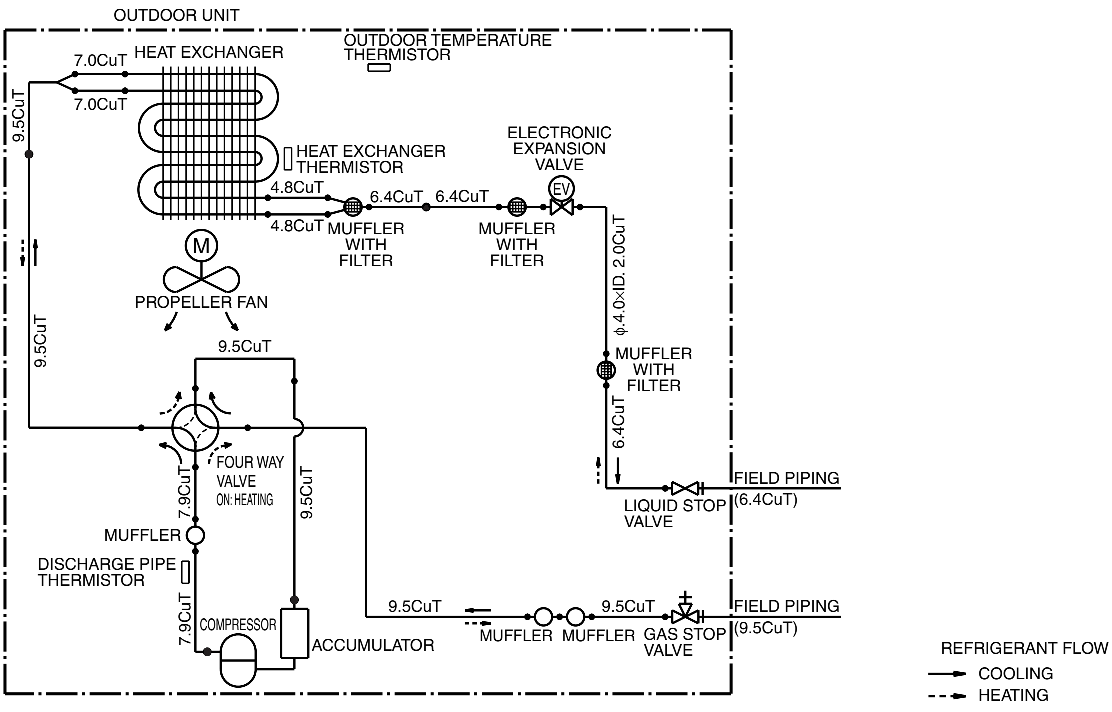
1.2.2 Heat Pump

RXS25/35E2V1B



3D047316R

RXS25/35G2V1B, RXS25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B

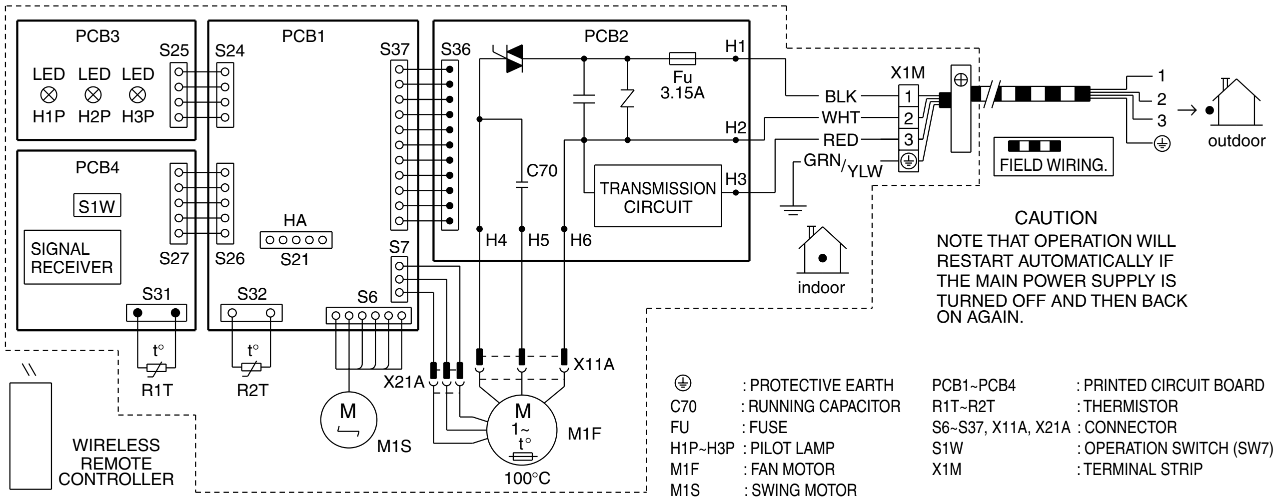


3D059586Q

2. Wiring Diagrams

2.1 Indoor Unit

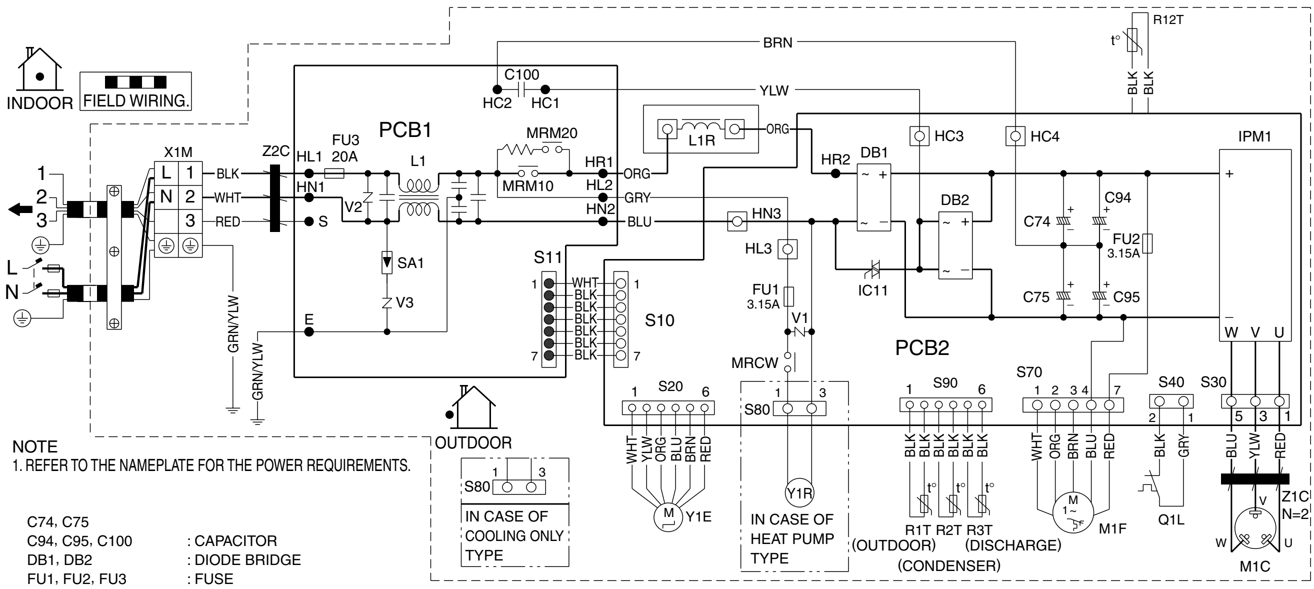
FLK(X)S25/35BAVMB



3D033909F

2.2 Outdoor Unit

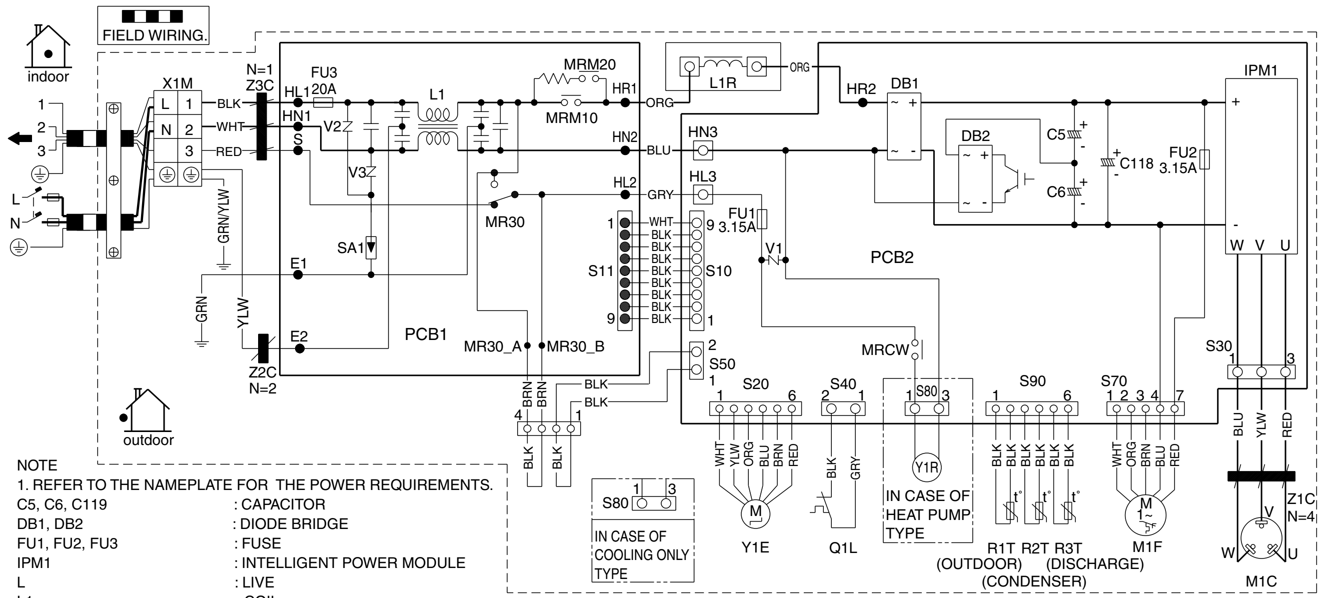
RK(X)S25/35E2V1B



- C74, C75, C94, C95, C100 : CAPACITOR
- DB1, DB2 : DIODE BRIDGE
- FU1, FU2, FU3 : FUSE
- IC11 : TRIAC
- IPM1 : INTELLIGENT POWER MODULE
- L : LIVE
- L1 : COIL
- L1R : REACTOR
- M1C : COMPRESSOR MOTOR
- M1F : FAN MOTOR
- MRCW, MRM10, MRM20 : MAGNETIC RELAY
- N : NEUTRAL
- PCB1, PCB2 : PRINTED CIRCUIT BOARD
- Q1L : OVERLOAD PROTECTOR
- R1T, R2T, R3T, R12T : THERMISTOR
- S10, S11, S20, S30, S40, S70, S80, S90, S91, HC3, HC4, HL3, HN3 : CONNECTOR
- SA1 : SURGE ARRESTER
- V1, V2, V3 : VARISTOR
- X1M : TERMINAL STRIP
- Y1E : ELECTRONIC EXPANSION VALVE COIL
- Y1R : REVERSING SOLENOID VALVE COIL
- Z1C, Z2C : FERRITE CORE
- ⏚ : PROTECTIVE EARTH

3D046707N

RK(X)S25/35G2V1B

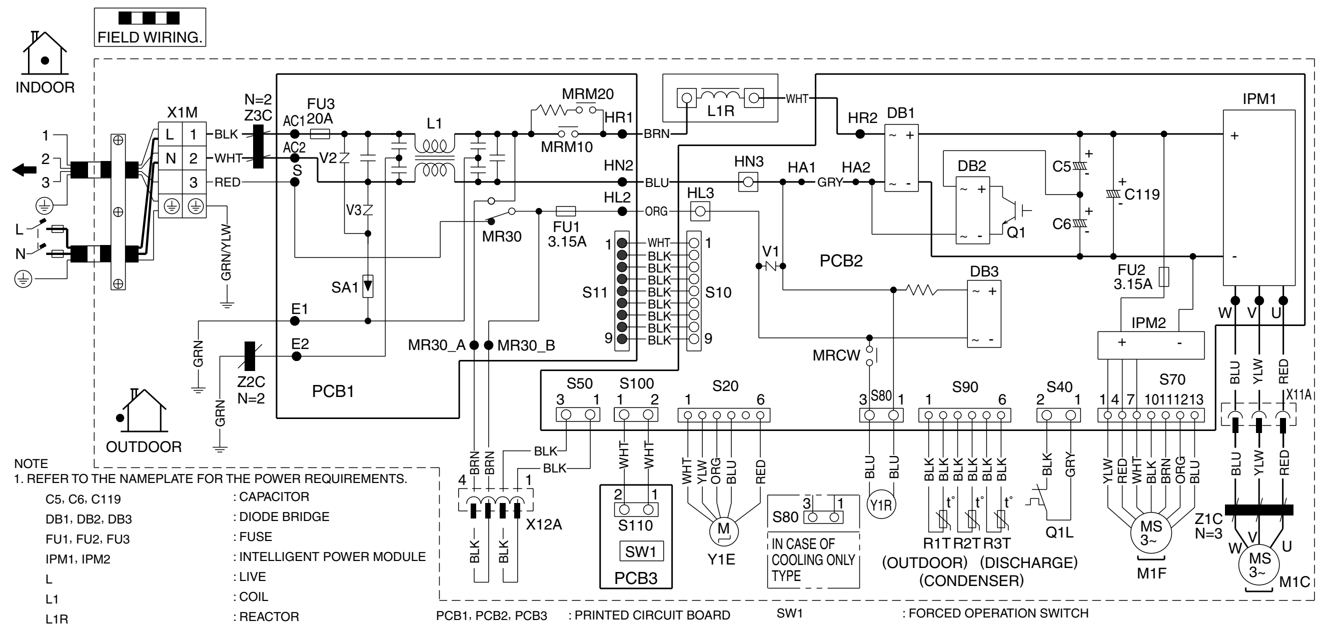


NOTE
1. REFER TO THE NAMEPLATE FOR THE POWER REQUIREMENTS.

C5, C6, C119	: CAPACITOR
DB1, DB2	: DIODE BRIDGE
FU1, FU2, FU3	: FUSE
IPM1	: INTELLIGENT POWER MODULE
L	: LIVE
L1	: COIL
L1R	: REACTOR
M1C	: COMPRESSOR MOTOR
M1F	: FAN MOTOR
MRCW, MR30, MRM10, MRM20	: MAGNETIC RELAY
N	: NEUTRAL
Q1L	: OVERLOAD PROTECTOR
PCB1, PCB2	: PRINTED CIRCUIT BOARD
PTC1	: THERMISTOR PTC
S10, S11, S20, S30, S40, S50, S70, S80, S90, HL3, HN3	: CONNECTOR
R1T, R2T, R3T	: THERMISTOR
SA1	: SURGE ARRESTER
V1, V2, V3	: VARISTOR
X1M	: TERMINAL STRIP
Y1E	: ELECTRONIC EXPANSION VALVE COIL
Y1R	: REVERSING SOLENOID VALVE COIL
Z1C, Z2C, Z3C	: FERRITE CORE
⏚	: PROTECTIVE EARTH

3D058684B

RK(X)S25/35G2V1B9, RXS25/35J2V1B, RXS25K3V1B, RXS35K2V1B



NOTE
1. REFER TO THE NAMEPLATE FOR THE POWER REQUIREMENTS.

C5, C6, C119	: CAPACITOR
DB1, DB2, DB3	: DIODE BRIDGE
FU1, FU2, FU3	: FUSE
IPM1, IPM2	: INTELLIGENT POWER MODULE
L	: LIVE
L1	: COIL
L1R	: REACTOR
M1C	: COMPRESSOR MOTOR
M1F	: FAN MOTOR
MRCW, MR30, MRM10, MRM20	: MAGNETIC RELAY
N	: NEUTRAL
Q1L	: OVERLOAD PROTECTOR
PCB1, PCB2, PCB3	: PRINTED CIRCUIT BOARD
S10, S11, S20, S40, S50, S70, S80, S90, S100, S110, HL3, HN3, X11A, X12A	: CONNECTOR
R1T, R2T, R3T	: THERMISTOR
SA1	: SURGE ARRESTER
SW1	: FORCED OPERATION SWITCH
V1, V2, V3	: VARISTOR
X1M	: TERMINAL STRIP
Y1E	: ELECTRONIC EXPANSION VALVE COIL
Y1R	: REVERSING SOLENOID VALVE COIL
Z1C, Z2C, Z3C	: FERRITE CORE
⏚	: PROTECTIVE EARTH

3D065704E

3. Removal Procedure (Booklet No.)

Refer to the following booklets for removal procedure.

∗FLKS25/35BAVMB	Refer to **SiBE05-722_B**.
∗FLXS25/35BAVMB	Refer to **Si051261_A**.
∗RK(X)S25/35E2V1B, RK(X)S25/35G2V1B(9), RXS25/35J2V1B	Refer to **SiBE05-722_B**.
∗RXS25K3V1B, RXS35K2V1B	Refer to **Si001273.**

Revision History

Month / Year	Version	Revised contents
01 / 2007	SiBE05-722	First edition
05 / 2010	SiBE05-722_A	Model addition: RK(X)S25/35G2V1B, RK(X)S25/35G2V1B9
01 / 2011	SiBE05-722_B	Model addition: RXS25/35J2V1B
12 / 2012	SiBE05-722_C	Model addition: RXS25K3V1B, RXS35K2V1B

Warning

- Daikin products are manufactured for export to numerous countries throughout the world. Prior to purchase, please confirm with your local authorised importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

Dealer

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http://www.daikin.com/global_ac/

●Specifications, designs and other content appearing in this brochure are current as of December 2012 but subject to change without notice.

SiBE05-722_C
12/2012 AK.B